



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
BOSTON, MA 02109-3912

October 7, 2010

David M. Rymph, Director
Environmental Remediation
GenCorp, Inc.
820 Starkweather
Plymouth, MI 48170

Re: Authorization to discharge under the Remediation General Permit (RGP) –
MAG910000. GenCorp Inc., site located at 70 General Street, Lawrence, MA 01840
Authorization #MAG910460, and Notice of Termination of Individual Permit
#MA0003824, for the same site.

Dear Mr. Rymph:

Based on the review of a Notice of Intent (NOI) submitted on behalf of GenCorp Inc., by the firm De Maximis, Inc., for the site referenced above, the U.S. Environmental Protection Agency (EPA) hereby authorizes you, as the named Owner and Operator, to discharge in accordance with the provisions of the RGP at that site. Your authorization number is listed above.

In addition EPA is proceeding to terminate the expired individual permit #MA0003824 for the same site. Regulations found at 40 CFR§ 122.64 establish causes for terminating an NPDES permit, and also, define the methods for terminating a permit. Since all discharges at GenCorp, Inc., authorized under Individual Permit # MA0003824 were terminated, or are covered by another appropriate permit, such as an RGP, we are following the "termination by notice" procedures found in 40 CFR 122.64 (b). In accordance with these procedures, you are hereby notified that EPA will terminate your expired permit, thirty (30) days after your receipt of this letter. At the end of thirty (30) days, if you do not object to the termination of your NPDES individual permit #MA0003824 it will be terminated and your coverage under the RGP described in this letter will continue.

The enclosed checklist for the new RGP designates the monitoring parameters applicable to discharges associated with Activities for Category II- Non Petroleum Site Remediation, Subcategory B - VOC Sites with Additional Contamination and Category III-Contaminated Construction Dewatering, Subcategory B- Known Contaminated Sites. The specific pollutants for which monitoring requirements and effluent limitations for these subcategories must be met are indicated in Appendix III and Appendix VI of the

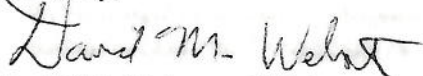
RGP. Please note that the checklist does not represent the complete requirements of the RGP. Operators must comply with all of the applicable requirements of this permit, including influent and effluent monitoring, narrative water quality standards, record keeping, and reporting requirements, found in Parts I and II, and Appendices I – VIII of the RGP. See EPA's website for the complete RGP and other information at: <http://www.epa.gov/region1/npdes/mass.html#dgp>.

Please note also the following: (1) the list of pollutants attached to this authorization is subject to a recertification if the operations at the site result in a discharge lasting longer than six months, and (2) errors in Appendixes III and VI of the 2010 RGP reissuance were discovered. Namely on Appendix III, Item #5, the effluent limit for benzene which is 5ug/L is missing; and in Appendix VI, Item #3, the methodology for Total Petroleum Hydrocarbons (TPH), Method 1664A was omitted and in its place is the method for total suspended solids (TSS), Method 160.2.

This general permit and authorization to discharge will expire on September 9, 2015. This project reportedly will terminate on June 1, 2040. If for any reason the discharge terminates sooner, EPA requests that a Notice of Termination (NOT) is submitted to the attention of the contact person indicated below within 30 days of project completion.

Thank you in advance for your cooperation in this matter. Please contact Victor Alvarez at 617-918-1572 or Alvarez.Victor@epa.gov, if you have any questions.

Sincerely,



David M. Webster, Chief
Industrial Permits Branch

Enclosure

cc: Kathleen Keohane, Mass DEP
Stan Baker, De Maximis, Inc.

**2010 Remediation General Permit
Summary of Monitoring Parameters[1]**

| | |
|---|--|
| NPDES Permit Number: | MAG910460 |
| Date Permit Issued: | October, 2010 |
| Facility /Site Name: | GenCorp, Inc. |
| Facility/Site Address: | 70 General Street Lawrence, MA 01840 |
| Legal Name of Operator: | David M. Rymph |
| Operator contact name Address: | 820 Starkweather Plymouth, MI 48170; David.Rymph@Aerojet.com ; Pn:734.414.9321 |
| Estimated Date of Completion: | 06/01/2040 |
| Categories II and III Sub-Categories B: | B- VOC Sites with Additional Contaminants and Subcategory B - Known Contaminated sites, respectively |
| Receiving Water: | Spicket River |

For Test Methods and Minimum Levels, see Appendix VI of the permit.

| Parameters | | | |
|-------------------|--|---|--|
| ✓ | 1. Total Suspended Solids (TSS) | ✓ | 28. Vinyl Chloride (Chloroethene) |
| | 2. Total Residual Chlorine (TRC) | ✓ | 29. Acetone |
| | 3. Total Petroleum Hydrocarbons (TPH) | | 30. 1,4 Dioxane |
| | 4. Cyanide (CN) [3] | | 31. Total Phenols |
| | 5. Benzene (B) | | 32. Pentachlorophenol (PCP) |
| | 6. Toluene (T) | ✓ | 33. Total Phthalates (Phthalate esthers) |
| | 7. Ethylbenzene (E) | ✓ | 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] |
| | 8. (m,p,o) Xylenes (X) | | 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH) |
| | 9. Total Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) | | a. Benzo(a) Anthracene |
| ✓ | 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) | | b. Benzo(a) Pyrene |
| | 11. Methyl-tert-Butyl Ether (MtBE) | | c. Benzo(b)Fluoranthene |
| | 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol) | | d. Benzo(k)Fluoranthene |
| | 13. tert-Amyl Methyl Ether (TAME) | | e. Chrysene |
| | 14. Naphthalene | | f. Dibenzo(a,h)anthracene |
| | 15. Carbon Tetrachloride | | g. Indeno(1,2,3-cd) Pyrene |
| | 16. 1,2 Dichlorobenzene (o-DCB) | | f. Dibenzo(a,h)anthracene |
| | 17. 1,3 Dichlorobenzene (m-DCB) | | g. Indeno(1,2,3-cd) Pyrene |
| | 18. 1,4 Dichlorobenzene (p-DCB) | | 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) |
| | 18a. Total dichlorobenzene | | h. Acenaphthene |
| | 19. 1,1 Dichloroethane (DCA) | | i. Acenaphthylene |
| ✓ | 20. 1,2 Dichloroethane (DCA) | | j. Anthracene |
| ✓ | 21. 1,1 Dichloroethene (DCE) | | k. Benzo(ghi) Perylene |
| | 22. cis-1,2 Dichloroethene (DCE) | | l. Fluoranthene |

| | | | |
|---|--|---|--|
| ✓ | 23. Methylene Chloride | | m. Fluorene |
| ✓ | 24. Tetrachloroethene (PCE) | | n. Naphthalene |
| | 25. 1,1,1 Trichloro-ethane (TCA) | | o. Phenanthrene |
| | 26. 1,1,2 Trichloro-ethane (TCA) | | p. Pyrene |
| ✓ | 27. Trichloroethene (TCE) | | |
| | | | |
| ✓ | 37. Total Polychlorinated Biphenyls (PCBs) | ✓ | 52. Instantaneous Flow |
| ✓ | 38. Chloride | ✓ | 53. Total Flow |
| | 39. Antimony | ✓ | 54. pH Range for Class A & Class B Waters in MA |
| ✓ | 40. Arsenic | | 55. pH Range for Class SA & Class SB Waters in MA |
| | 41. Cadmium | | 56. pH Range for Class B Waters in NH |
| | 42. Chromium III (trivalent) | | 57. Daily maximum temperature - Warm water fisheries |
| | 43. Chromium VI (hexavalent) | | 58. Daily maximum temperature - Cold water fisheries |
| ✓ | 44. Copper | | 59. Maximum Change in Temperature in MA - Any Class A water body |
| ✓ | 45. Lead | | 60. Maximum Change in Temperature in MA - Warm Water |
| | 46. Mercury | | 61. Maximum Change in Temperature in MA - Cold water and Lakes/Ponds |
| ✓ | 47. Nickel | | 62. Maximum Change in Temperature in MA - Coastal |
| | 48. Selenium | | 63. Maximum Change in Temperature in MA - July to September |
| | 49. Silver | | 64. Maximum Change in Temperature in MA - October to June |
| | 50. Zinc | | |
| ✓ | 51. Iron | | |

[1] This checklist does not represent the complete requirements of the 2010 RGP. Operators must comply with all applicable requirements of the permit, including Parts I, II, and Appendices I through VIII.

[2] See Parts I.C and I.D. and Appendix III of the 2010 RGP for specific limits and requirements.

[3] Limits for cyanide are based on EPA's water quality criteria expressed as micrograms (ug) of free cyanide per liter. EPA is now in the process of promulgating method for free cyanide until the final rule is promulgated, total cyanide must be reported.



28646 Rolcrest Rd.
Farmington Hills, MI 48334
(248) 851-4458

MAG 9/10/460

July 7, 2010

Mr. Victor Alvarez
USEPA Region 1
Municipal NPDES Branch
1 Congress Street Suite 1100
Boston, MA 02114-8127

RE: **Notice of Intent – Remedial General Permit
GenCorp Long Term Groundwater Treatment
Lawrence, MA**

Dear Mr. Alvarez,

On behalf of GenCorp, Inc., *de maximis, inc.* (*de maximis*) is providing the Notice of Intent (NOI) for the Remedial General Permit (RGP) for the long term groundwater treatment facility in Lawrence, MA.

The remedial work associated with this RGP consists of plume containment with active groundwater treatment. The groundwater treatment plant will be located in a newly constructed building on the GenCorp property as shown in the Appendix. Water will be extracted directly from the interior raceway system following the installation of plugs on the east and west ends. Passive bedrock drains will be installed through the floor of the raceway to promote upward flow of the lower confined overburden and bedrock aquifers into the internal raceway tunnels and ultimately through the groundwater treatment system.

In addition to active groundwater collection, the raceway system is designed to be used as compensatory storage during a 100 year flood event whereas whenever the floodwaters reach the designated 100 year flood stage, the water will flow in to the raceway system and ultimately be treated through the groundwater treatment system and discharged to the storm sewer and ultimately to the Spicket River.

The groundwater treatment system will consist of equalization tanks, bag filtration, green sand filtration, granular activated carbon, and associated pumps, piping, valves and instrumentation. A conceptual Process Flow Diagram (PFD) and Piping and Instrumentation Diagram (P&ID) are included in this NOI.

Please do not hesitate to call me at any time at 248-851-4458 should you have any questions or require additional information.

Sincerely,



Stan Baker
de maximis, inc

| | | |
|-----|--------------|-------------------------|
| cc; | D. Rymph; | GenCorp, Inc. |
| | K. Tisa; | USEPA |
| | Chuck Myette | Brown and Caldwell |
| | Todd Majer | <i>de maximis, inc.</i> |

B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit

1. General site information. Please provide the following information about the site:

| | | | |
|--|--|---|---|
| a) Name of facility/site: GenCorp Inc., Lawrence Location | | Facility/site address: 70 General Street | |
| Location of facility/site: Longitude: -71.150342 latitude: 42.707905 | | Facility SIC code(s): 9999 | |
| b) Name of facility/site owner: GenCorp Inc. | | Street: 70 General Street | |
| Email address of owner: David.Rymph@Aerojet.com | | Town: Lawrence | |
| Telephone no. of facility/site owner: (734) 414-9321 | | State: MA | Zip: 01840 |
| Fax no. of facility/site owner: (734) 414-8853 | | County: Essex | |
| Address of owner (if different from site): | | Owner is (check one): 1. Federal _____ 2. State/Tribal _____ 3. Private <input checked="" type="checkbox"/> 4. other, if so, describe: _____ | |
| Street: 820 Starkweather | | | |
| Town: Plymouth | State: MI | Zip: 48170 | County: Wayne |
| c) Legal name of operator: GenCorp Inc. | Operator telephone no.: (734) 414-9321 | | Operator email: David.Rymph@Aerojet.com |
| | Operator fax no.: (734) 414-8853 | | |
| Operator contact name and title: David Rymph, Director of Environmental Remediation | | | |
| Address of operator (if different from owner): | | Street: | |
| Town: | State: | Zip: | County: |
| d) Check "yes" or "no" for the following: 1. Has a prior NPDES permit exclusion been granted for the discharge? Yes ___ No <input checked="" type="checkbox"/> , if "yes," number: 2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge? Yes ___ No <input checked="" type="checkbox"/> , if "yes," date and tracking #: 3. Is the discharge a "new discharge" as defined by 40 CFR 122.2? Yes <input checked="" type="checkbox"/> No ___ 4. For sites in Massachusetts, is the discharge covered under the MA Contingency Plan (MCP) and exempt from state permitting? Yes <input checked="" type="checkbox"/> No ___ | | | |

e) Is site/facility subject to any State permitting or other action which is causing the generation of discharge? Yes ☒ No ☐
 If "yes," please list:
 1. site identification # assigned by the state of NH or M.A. RTN 3-0340
 2. permit or license # assigned: Tier 1B # 83009
 3. state agency contact information: name, location, and telephone number:
 Jack Milano, Mass DEP NERO (978)694-3200

f) Is the site/facility covered by any other EPA permit, including:
 1. multi-sector storm water general permit? Y ☐ N ☒, if Y, number:
 2. phase I or II construction storm water general permit? Y ☒ N ☐, if Y, number: MAR10D557
 3. individual NPDES permit? Y ☒ N ☐, if Y, number: MA0003824
 4. any other water quality related permit? Y ☐ N ☒, if Y, number:

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed) including:

a) Describe the discharge activities for which the owner/applicant is seeking coverage:

Groundwater/DNAPL will be collected with a bedrock drainage system and transferred to a water treatment system before discharge to the Spicket River.

| b) Provide the following information about each discharge: | 1) Number of discharge points: 2) What is the maximum and average flow rate of discharge (in cubic feet per second, ft ³ /s)? Max. flow 0.074 Average flow 0.067 Is maximum flow a design value? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> For average flow, include the units and appropriate notation if this value is a design value or estimate if not available. |
|--|---|
| 1 | |

3) Latitude and longitude of each discharge within 100 feet: pt. 1: long. N0083154 lat. E750087; pt. 2: long. N008329 lat. E749921; pt. 3: long. lat. ; pt. 4: long. lat. ; pt. 5: long. lat. ; pt. 6: long. lat. ; pt. 7: long. lat. ; pt. 8: long. lat. ; etc.

4) If hydrostatic testing, total volume of the discharge (gals):
 5) Is the discharge intermittent or seasonal?
 Is discharge ongoing Yes ☒ No ☐ ?

c) Expected dates of discharge (mm/dd/yy): start 06/01/10 end 06/01/40

d) Please attach a line drawing or flow schematic showing water flow through the facility including:
 1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).

3. Contaminant information. In order to complete this section, the applicant will need to take a minimum of one sample of the untreated water and have it analyzed for all of the parameters listed in Appendix III. Historical data, (i.e., data taken no more than 2 years prior to the effective date of the permit) may be used if obtained pursuant to: i. Massachusetts' regulations 310 CMR 40.0000, the Massachusetts Contingency Plan ("Chapter 21E"); ii. New Hampshire's Title 50 RSA 485-A: Water Pollution and Waste Disposal or Title 50 RSA 485-C: Groundwater Protection Act; or iii. an EPA permit exclusion letter issued pursuant to 40 CFR 122.3, provided the data was analyzed with test methods that meet the requirements of this permit. Otherwise, a new sample shall be taken and analyzed.

a) Based on the analysis of the sample(s) of the untreated influent, the applicant must check the box of the sub-categories that the potential discharge falls within.

| | | | | | | |
|---------------------------------|---|-----------------------------------|---------------------------|---------------------------------|--|------------------------------------|
| Gasoline Only | VOC Only | Primarily Metals | Urban Fill Sites | Contaminated Sumps | Mixed Contaminants | Aquifer Testing |
| Fuel Oils (and Other Oils) only | VOC with Other Contaminants <input checked="" type="checkbox"/> | Petroleum with Other Contaminants | Listed Contaminated Sites | Contaminated Dredge Condensates | Hydrostatic Testing of Pipelines/Tanks | Well Development or Rehabilitation |

b) Based on the analysis of the untreated influent, the applicant must indicate whether each listed chemical is believed present or believed absent in the potential discharge. Attach additional sheets as needed.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 minimum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|---------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 1. Total Suspended Solids | | <input checked="" type="checkbox"/> | 3 | GRAB | 2540D | 30,000 | 160,000 | 28.8 | 73,300 | 10.5 |
| 2. Total Residual Chlorine | <input checked="" type="checkbox"/> | | 2 | GRAB | 4500CL-D | 20 | <20 | | <20 | |
| 3. Total Petroleum Hydrocarbons | <input checked="" type="checkbox"/> | | 2 | GRAB | 1664A | 4,000 | <4,000 | | <4,000 | |
| 4. Cyanide | <input checked="" type="checkbox"/> | | 2 | GRAB | 335.2 | 5 | <5 | | <5 | |
| 5. Benzene | <input checked="" type="checkbox"/> | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 6. Toluene | <input checked="" type="checkbox"/> | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 7. Ethylbenzene | <input checked="" type="checkbox"/> | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 8. (m,p,o) Xylenes | <input checked="" type="checkbox"/> | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 9. Total BTEX ⁴ | <input checked="" type="checkbox"/> | | 2 | GRAB | 5030B/8260E | 20.0 | <20 | | <20 | |

⁴ BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 min-immun) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|--|----------------|-----------------|----------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 10. Ethylene Dibromide ⁵ (1,2- Dibromo-methane) | ✓ | | 3 | GRAB | 624 | 0.01 | <0.01 | | <0.01 | |
| 11. Methyl-tert-Butyl Ether (MTBE) | ✓ | | 3 | GRAB | 5030B/8260E | 1.0 | <1 | | <1 | |
| 12. tert-Butyl Alcohol (TBA) | ✓ | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 13. tert-Amyl Methyl Ether (TAME) | ✓ | | 3 | GRAB | 5030B/8260E | 1.0 | <1 | | <1 | |
| 14. Naphthalene | ✓ | | 3 | GRAB | 5030B/8260E | 1.0 | <1 | | <1 | |
| 15. Carbon Tetra-chloride | ✓ | | 3 | GRAB | 5030B/8260E | 4.0 | <4 | | <4 | |
| 16. 1,4 Dichlorobenzene | ✓ | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 17. 1,2 Dichlorobenzene | ✓ | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 18. 1,3 Dichlorobenzene | ✓ | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 19. 1,1 Dichloroethane | ✓ | | 3 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 20. 1,2 Dichloroethane | | ✓ | 3 | GRAB | 624 | 1.5 | <1.5 | | <1.5 | |
| 21. 1,1 Dichloroethylene | | ✓ | 2 | GRAB | 624 | 1.0 | <1 | | <1 | |
| 22. cis-1,2 Dichloro-ethylene | ✓ | | 2 | GRAB | 5030B/8260E | 5.0 | <5 | | <5 | |
| 23. Dichloromethane (Methylene Chloride) | | ✓ | 3 | GRAB | 624 | 5.0 | <5 | | <5 | |
| 24. Tetrachloroethylene | | ✓ | 3 | GRAB | 624 | 1.5 | <1.5 | | <1.5 | |

⁵ EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 minimum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily Value | |
|--|----------------|-----------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 25. 1,1,1 Trichloroethane | ✓ | | 3 | | 5030B/8260E | 5.0 | <5 | | <5 | |
| 26. 1,1,2 Trichloroethane | ✓ | | 3 | GRAB | 624 | 1.5 | <1.5 | | <1.5 | |
| 27. Trichloroethylene | | ✓ | 3 | GRAB | 624 | 1.0 | <1 | | <1 | |
| 28. Vinyl Chloride | | ✓ | 3 | GRAB | 624 | 2.0 | <2 | | <2 | |
| 29. Acetone | | ✓ | 3 | GRAB | 624 | 10 | <10 | | <10 | |
| 30. 1,4 Dioxane | ✓ | | 3 | GRAB | 624 | 20 | <20 | | <20 | |
| 31. Total Phenols | ✓ | | 3 | GRAB | 420.1 | 150 | <150 | | <150 | |
| 32. Pentachlorophenol | ✓ | | 3 | GRAB | 8270C SIM | 0.80 | <0.8 | | <0.8 | |
| 33. Total Phthalates ' (Phthalate esters) | | ✓ | 3 | GRAB | 8270C | 30 | <30 | | <30 | |
| 34. Bis (2-Ethylhexyl) Phthalate [Di-(ethylhexyl) Phthalate] | | ✓ | 3 | GRAB | 8270C | 5.0 | 7.9 | 0.00142 | 5.97 | 0.00086 |
| 35. Total Group I Polycyclic Aromatic Hydrocarbons (PAH) | ✓ | | 2 | GRAB | 8270C SIM | 1.0 | <1 | | <1 | |
| a. Benzo(a) Anthracene | ✓ | | 3 | GRAB | 8270C SIM | 0.05 | <0.5 | | <0.5 | |
| b. Benzo(a) Pyrene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| c. Benzo(b)Fluoranthene | ✓ | | 3 | GRAB | 8270C SIM | 0.10 | <0.1 | | <0.1 | |
| d. Benzo(k) Fluoranthene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| e. Chrysene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |

⁶The sum of individual phthalate compounds.

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 minimum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Average daily value | |
|---|----------------|-----------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| f. Dibenzo(a,h)anthracene | ✓ | | 3 | GRAB | 8270C SIM | 0.10 | <0.1 | | <0.1 | |
| g. Indeno(1,2,3-cd)Pyrene | ✓ | | 3 | GRAB | 8270C SIM | 0.15 | <0.1 | | <0.1 | |
| 36. Total Group II Polycyclic Aromatic Hydrocarbons (PAH) | ✓ | | 2 | GRAB | 8270C SIM | 1.80 | <1.8 | | <1.8 | |
| h. Acenaphthene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| i. Acenaphthylene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| j. Anthracene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| k. Benzo(ghi) Perylene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| l. Fluoranthene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| m. Fluorene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| n. Naphthalene- | ✓ | | 2 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| o. Phenanthrene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| p. Pyrene | ✓ | | 3 | GRAB | 8270C SIM | 0.20 | <0.2 | | <0.2 | |
| 37. Total Polychlorinated Biphenyls (PCBs) | | ✓ | 3 | GRAB | 608 | 0.25 | 284 | 0.0511 | 66 | 0.00950 |
| 38. Antimony | ✓ | | 3 | GRAB | 6020A | 1 | <1 | | <1 | |
| 39. Arsenic | | ✓ | 3 | GRAB | 6020A | 0.5 | 11.6 | 0.00209 | 9.97 | 0.00143 |
| 40. Cadmium | ✓ | | 2 | GRAB | 6020A | | <1 | | <1 | |
| 41. Chromium III | ✓ | | 2 | GRAB | 3500-CR | | <1 | | <1 | |
| 42. Chromium VI | ✓ | | 2 | GRAB | 3500CR-D | | <1 | | <1 | |

| PARAMETER | Believe Absent | Believe Present | # of Samples (1 minimum) | Type of Sample (e.g., grab) | Analytical Method Used (method #) | Minimum Level (ML) of Test Method | Maximum daily value | | Avg. daily value | |
|-------------------|----------------|-----------------|--------------------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------|-----------|----------------------|-----------|
| | | | | | | | concentration (ug/l) | mass (kg) | concentration (ug/l) | mass (kg) |
| 43. Copper | | ✓ | 3 | GRAB | 6020A | 0.5 | 345.8 | 0.0622 | 170 | 0.0245 |
| 44. Lead | | ✓ | 3 | GRAB | 6020A | 0.5 | 80.8 | 0.0145 | 59.8 | 0.00860 |
| 45. Mercury | ✓ | | 3 | GRAB | 245.1 | 0.2 | <0.2 | | <0.2 | |
| 46. Nickel | | ✓ | 3 | GRAB | 6020A | 0.5 | 22.9 | 0.00412 | 13.2 | 0.00190 |
| 47. Selenium | ✓ | | 3 | GRAB | 6020A | 1 | <1 | | <1 | |
| 48. Silver | ✓ | | 3 | GRAB | 6020A | 0.2 | <0.2 | | <0.2 | |
| 49. Zinc | ✓ | | 3 | GRAB | 6020A | 10 | <10 | | <10 | |
| 50. Iron | | ✓ | 3 | GRAB | 200.7 | 50 | 12,000 | 2.16 | 5,900 | 0.849 |
| Other (describe): | | | | | | | | | | |

c) For discharges where metals are believed present, please fill out the following:

| | |
|---|---|
| <p><i>Step 1:</i> Do any of the metals in the influent have a reasonable potential to exceed the effluent limits in Appendix III (i.e., the limits set at zero to five dilutions)? Y <u>✓</u> N <u> </u></p> | <p>If yes, which metals? As, Cu, Pb, Fe</p> |
| <p><i>Step 2:</i> For any metals which have reasonable potential to exceed the Appendix III limits, calculate the dilution factor (DF) using the formula in Part I.A.3.c) (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals? Metals: As, Cu, Pb, Fe DF: <u>2.79</u></p> | <p>Look up the limit calculated at the corresponding dilution factor in Appendix IV. Do any of the metals in the influent have the potential to exceed the corresponding effluent limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)? Y <u>✓</u> N <u> </u> If "Yes," list which metals: As, Cu, Pb, Fe</p> |

4. Treatment system information. Please describe the treatment system using separate sheets as necessary, including:

a) A description of the treatment system, including a schematic of the proposed or existing treatment system:

| | | | | | | |
|--|--------------|----------------|---|--------------------|--|--|
| b) Identify each applicable treatment unit (check all that apply): | Frac. tank | Air stripper | Oil/water separator | Equalization tanks | Bag filter <input checked="" type="checkbox"/> | GAC filter <input checked="" type="checkbox"/> |
| | Chlorination | Dechlorination | Other (please describe): Green Sand Filter, Sand Filter | | | |

c) Proposed average and maximum flow rates (gallons per minute) for the discharge and the design flow rate(s) (gallons per minute) of the treatment system:
 Average flow rate of discharge 26 Maximum flow rate of treatment system 33 Design flow rate of treatment system 30

d) A description of chemical additives being used or planned to be used (attach MSDS sheets): Potassium Permanganate to recharge green sand

5. Receiving surface water(s). Please provide information about the receiving water(s), using separate sheets as necessary:

a) Identify the discharge pathway:

| | | | | | |
|--------|-----------------|-------------------------------------|-------------------------------------|----------|-------------------|
| Direct | Within facility | Storm drain | River/brook | Wetlands | Other (describe): |
| | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | |

b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:
Discharge to storm drain and on to the Spicket River

c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:
 1. For multiple discharges, number the discharges sequentially.
 2. For indirect discharges, indicate the location of the discharge to the indirect conveyance and the discharge to surface water
 The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas.

d) Provide the state water quality classification of the receiving water B

e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 1.2 cfs
 Please attach any calculation sheets used to support stream flow and dilution calculations.

f) Is the receiving water a listed 303(d) water quality impaired or limited water? Yes ☒ No ☐ If yes, for which pollutant(s)? metals, nutrients, pathogens
 Is there a TMDL? Yes ☒ No ☐ If yes, for which pollutant(s)?

6. Results of Consultation with Federal Services: Please provide the following information according to requirements of Part I.B.4 and Appendices II and VII.

- a) Are any listed threatened or endangered species, or designated critical habitat, in proximity to the discharge? Yes ☒ No ☐
Has any consultation with the federal services been completed? Yes ☒ No ☐ or is consultation underway? Yes ☐ No ☐
What were the results of the consultation with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (check one):
a "no jeopardy" opinion? ☐ or written concurrence ☒ on a finding that the discharges are not likely to adversely affect any endangered species or critical habitat?
- b) Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility or site or in proximity to the discharge?
Yes ☒ No ☐ Have any state or tribal historic preservation officer been consulted in this determination (Massachusetts only)? Yes ☒ No ☐

7. Supplemental Information. :

Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit.

8. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility/Site Name:

GENCO INC. - LAWRENCE.

Operator signature:



Title:

Director, Environmental Remediation

Date:

8 July 2010

Attachment
NOI for Remedial General Permit
Long Term Groundwater Treatment Plant
GenCorp Inc.
Lawrence Location

1. General Facility/Site Information

The site is regulated by the Massachusetts Department of Environmental Protection (MassDEP) under the Massachusetts Contingency Plan (MCP), Release Tracking Number (RTN) #3-0340, as a Tier IB permit, (#83009), location and by the United States Environmental Protection Agency (USEPA) under the PCB Rule as a risk based approval location for remedial activities. The remedial work to be performed is based on a Remedial Action Plan approved by the USEPA and concurred with by the MassDEP. A Remedial Implementation Plan (RIP) for the work will be submitted to the USEPA for approval and to the MassDEP before remedial work is performed. A CGP NOI was filed for a separate project currently being implemented onsite. The USEPA tracking number for the CGP NOI for the current separate project is MARI0D557.

The following agency staff has participated in consultations, permitting, and/or approvals for the proposed remedial work.

- Ms Kimberly Tisa, USEPA - Bureau of Ecosystem Protection, PCB Rule
- Ms. Ellen Weitzler, USEPA - Individual NPDES permit
- Ms. Jean Brochi, USEPA - Historical Officer
- Mr. Theodore Lento, ACOE - ACOE permit
- Mr. Jack Miano, MassDep - Bureau of Waste Site Cleanup, MCP
- Ms. Nancy White, MassDep - Water Quality Certificate, Wetlands
- Mr. Terrance Lily, City of Lawrence - Conservation Commissioner

2. Discharge Information

There is one indirect discharge location. Effluent water from the water treatment plant will be discharged to the newly constructed stormwater drainage system directly adjacent to the proposed water treatment building and ultimately to the Spicket River. The figures included in Attachment 2 shows the overall flow schematic for the proposed work.

- Water will be collected directly from the sealed interior raceways at an average flow rate of 30 gallons per minute.
- The water will pass through a series of particulate filtration (bag filters), metals treatment (green sand), and adsorption (activated carbon).

3. Contaminant Information

Samples of groundwater from two groundwater monitoring wells, MW 28-S and MW 28-D (adjacent to the raceways), as well as from influent water to the temporary water treatment system used during the raceway remediation activities, were used in the evaluation of this system. The well samples were collected on April 8, 2009 and the temporary WTP sample was collected on August 15, 2009. The samples were analyzed for the required RGP parameters. The results of the laboratory analysis for the two wells are provided in Attachment 3.

4. Treatment System Information

Figures in Attachment 2 show the schematic of the temporary treatment unit.

- Influent water, with a maximum flow of 33 gpm, from the raceway will be routed through bag filters to remove particulates.
- The water, with a maximum flow of 33 gpm, will then pass through a green sand unit for iron removal. Potassium permanganate will be used to regenerate the green sand media. MSDS for the media and regeneration products are included in Appendix 4.
- The water, with a maximum flow of 33 gpm, will then be routed through granular activated carbon (GAC) units to remove organics. Parallel lead and lag GAC units, each treating approximately 16.5 gpm, will be provided for a maximum treatment capability of 33 gpm. It is anticipated that the treatment unit will operate on a continuous basis at 30 gpm.
- The water, with a maximum flow of 33 gpm, will pass through a final set of bag filters prior to discharge to a storm sewer system adjacent to the treatment plant building.

5. Receiving surface water(s) information

The treated effluent from the water treatment plant will be conveyed through a 4" pipe to the stormwater sewer system adjacent to the building. The water will then be conveyed, via the stormwater system to the Spicket River. Figures in Attachment 2 show the locations of the GWTP system discharge to the sewer and the sewer discharge to the Spicket River.

The receiving water body is the Spicket River, adjacent to the site. The Spicket River is a MassDep Class B stream, which is required to be suitable for fishing and swimming, but is impaired.

The figures in Attachment 2 show the site, the raceways, the Spicket River and the discharge location of the treated effluent into the Spicket River. The discharge location is approximately 1,900 feet upstream of the confluence of the Spicket River with the Merrimack River and 1,500 feet upstream of the confluence of the Spicket River with the North Canal. The North Canal is a lined canal that carries water through Lawrence from upstream in the Merrimack River and overflows a weir into the Spicket River.

6. Result of Consultation with Federal Services

The ACOE permit, dated November 24, 2008, which is in Attachment 1, contains the information regarding the consultation with National Marine Fisheries Service that has been performed. In addition, in Attachment 1 includes a letter from the Division of Fisheries and Wildlife (DFW), dated April 18, 2008, indicating that rare species or habitats are not present at the discharge location. DFW was contacted by telephone on April 14, 2009, to confirm that there has been no change in the determination. Consultation with appropriate agencies for preservation and/or providing mitigation for impacts to historic features has been performed as part of the overall project which includes remedial and redevelopment activities, as indicated in the ACOE permit.

Attachment 1

Army Corps of Engineers Permit and MassDEP Water Quality Certification



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

November 24, 2008

Regulatory Division
CENAE-R-2007-1771

Joseph Costanzo
Merrimack Valley Regional Transit Authority
85 Railroad Avenue
Haverhill, MA 01835

Dear Mr. Costanzo:

We have reviewed your application to place fill material below the ordinary high water line of the canal raceway that flows into the Spicket River at 70 General Street in Lawrence, Massachusetts in conjunction with the installation of a groundwater collection system to treat the water before it re-enters the Spicket River. A temporary cofferdam will be installed within an area of approximately 1,440 square feet (sf) in order to isolate the raceway from the Spicket River while work is on going. An area of approximately 2,500 sf below the ordinary high water line will be filled for construction of a concrete retaining wall and backfill. Raceway and penstock plugs will be installed within three areas that total approximately 3,150 sf in order to assist in collection of ground water that will be pumped to treatment facilities. Ground water that is collected will be treated as specified by a Remedy Implementation Plan to be approved by the U.S. Environmental Protection Agency. The work is shown on the attached plans entitled "GENCORP, INC., LAWRENCE, MASSACHUSETTS", on 8 sheets dated October 2008.

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 2 activity under the attached Federal permit known as the Massachusetts Programmatic General Permit (PGP). This work must be performed in accordance with the terms and conditions of the PGP and also in compliance with the following special condition.

The permittee shall provide the Massachusetts Historical Commission and Lawrence Historical Commission draft plans, drawings and specifications for review and approval of the interpretative kiosks to be placed within the project area and the draft project drawings and specifications for the proposed treatment to be used on a portion of the concrete retaining wall depicted on sheet 4 of the attached permit plans. These draft plans, drawings and specifications shall be submitted within 18 months of the effective date of this permit and the permittee shall complete installation of these items within three years of the effective date of this permit. The intent of this condition is to mitigate for changes to the historic canal and mill buildings by providing interpretative signs and displays within the project area and to ensure the concrete retaining wall constructed

within the canal shall have a façade in keeping with the original granite walls in the surrounding area.

The Corps of Engineers has consulted with the National Marine Fisheries Service (NMFS) regarding the effects of your project on Essential Fish Habitat (EFH) as designated under the Magnuson-Stevens Fishery Conservation and Management Act. The NMFS did not provide EFH conservation recommendations.

You are responsible for complying with all of the PGP's requirements. Please review the attached PGP carefully, in particular the PGP conditions beginning on Page 9, to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document and this authorization letter at the project site throughout the time the work is underway.

This determination becomes valid only after the Massachusetts Department of Environmental Protection (DEP) issues or waives Water Quality Certification (WQC) as required under Section 401 of the Clean Water Act. In the event the DEP denies the 401 WQC, this determination becomes null and void. The address of the DEP Regional office for your area is provided in the attached PGP.

Your project is located within, or may affect resources within the coastal zone. The Massachusetts Office of Coastal Zone Management (CZM) has already determined that no further Federal Consistency Review is required.

This authorization expires on January 20, 2010, unless the PGP is modified, suspended or revoked. You must complete the work authorized herein by January 20, 2010. If you do not, you must contact this office to determine the need for further authorization before continuing the activity. We recommend you contact us *before* this permit expires to discuss a time extension or permit reissuance.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to notify us before beginning work so we may inspect the project and to submit a Compliance Certification Form. You must complete and return the enclosed Work Start Notification Form to this office at least two weeks before the anticipated starting date. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work and any required mitigation (but not mitigation monitoring, which requires separate submittals).

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.


This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law, as listed on Page 1 of the PGP. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided

above or all the terms and conditions of the PGP may subject you to the enforcement provisions of our regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://www.nae.usace.army.mil/reg/Customer_Service_Survey.pdf.

Please contact Ted Lento, Regulatory Branch Project Manager at (978) 318-8863 if you have any questions.

Sincerely,

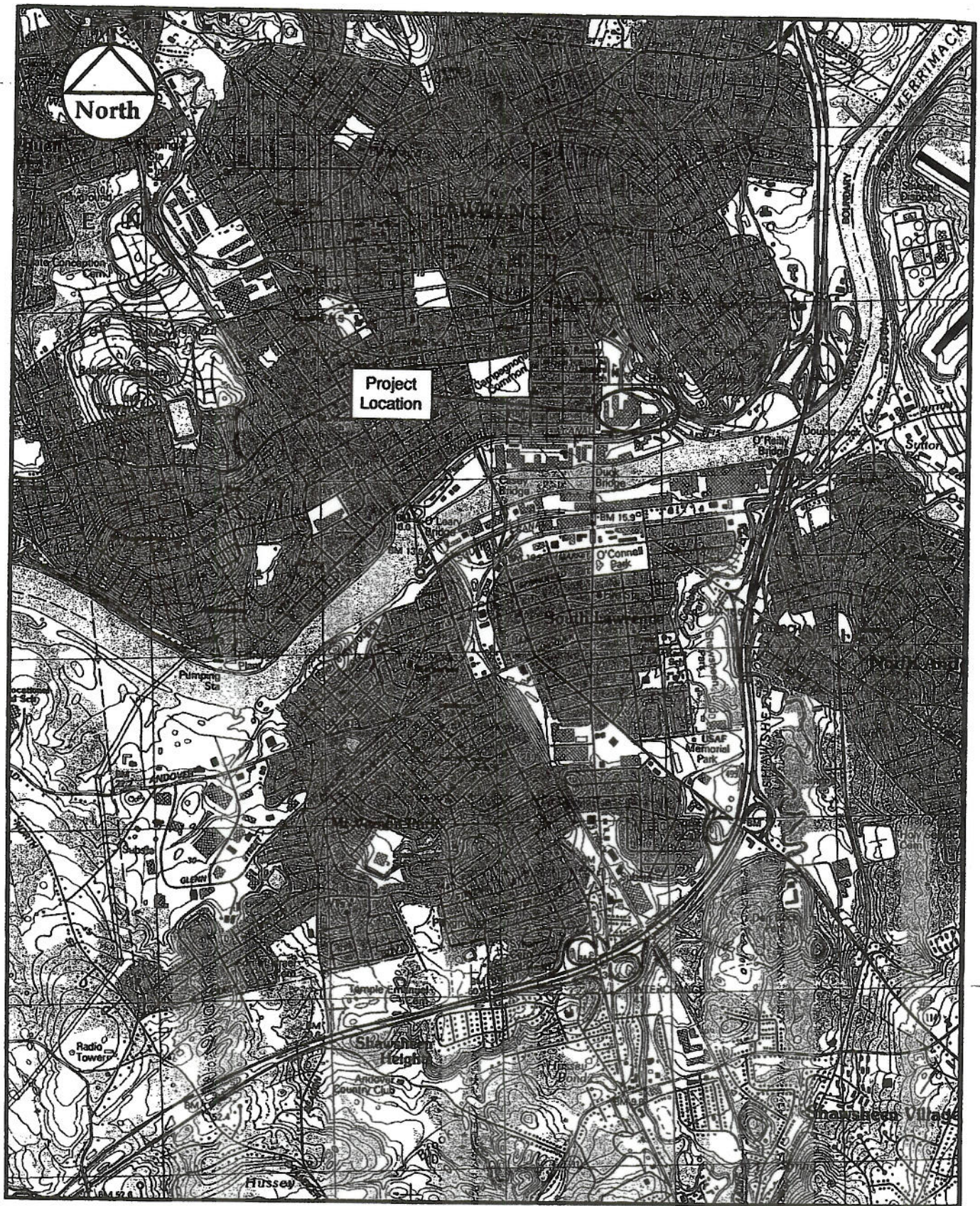


Philip T. Feir
Colonel, Corps of Engineers
District Engineer

Attachments

Copies Furnished:

Ed Reiner, U.S. EPA, Region 1, 1 Congress Street, Suite 1100-Mail Code CWP, Boston,
Massachusetts 02114-2023
Christopher Boelke, National Marine Fisheries Service, One Blackburn Drive, Gloucester,
Massachusetts 01930-2298
Robert Boeri, Coastal Zone Management, 251 Causeway Street, Suite 900, Boston,
Massachusetts 02114
Chester T. Gwardyak, Camp Dresser & McKee, One Cambridge Place, 50 Hampshire Place,
Cambridge, MA 02139
Jean Brochi, Federal Historic Preservation Officer, US EPA, Region 1, 1 Congress Street, Suite
1100, Boston, Massachusetts 02114-2023



0 2000 4000
Scale in Feet

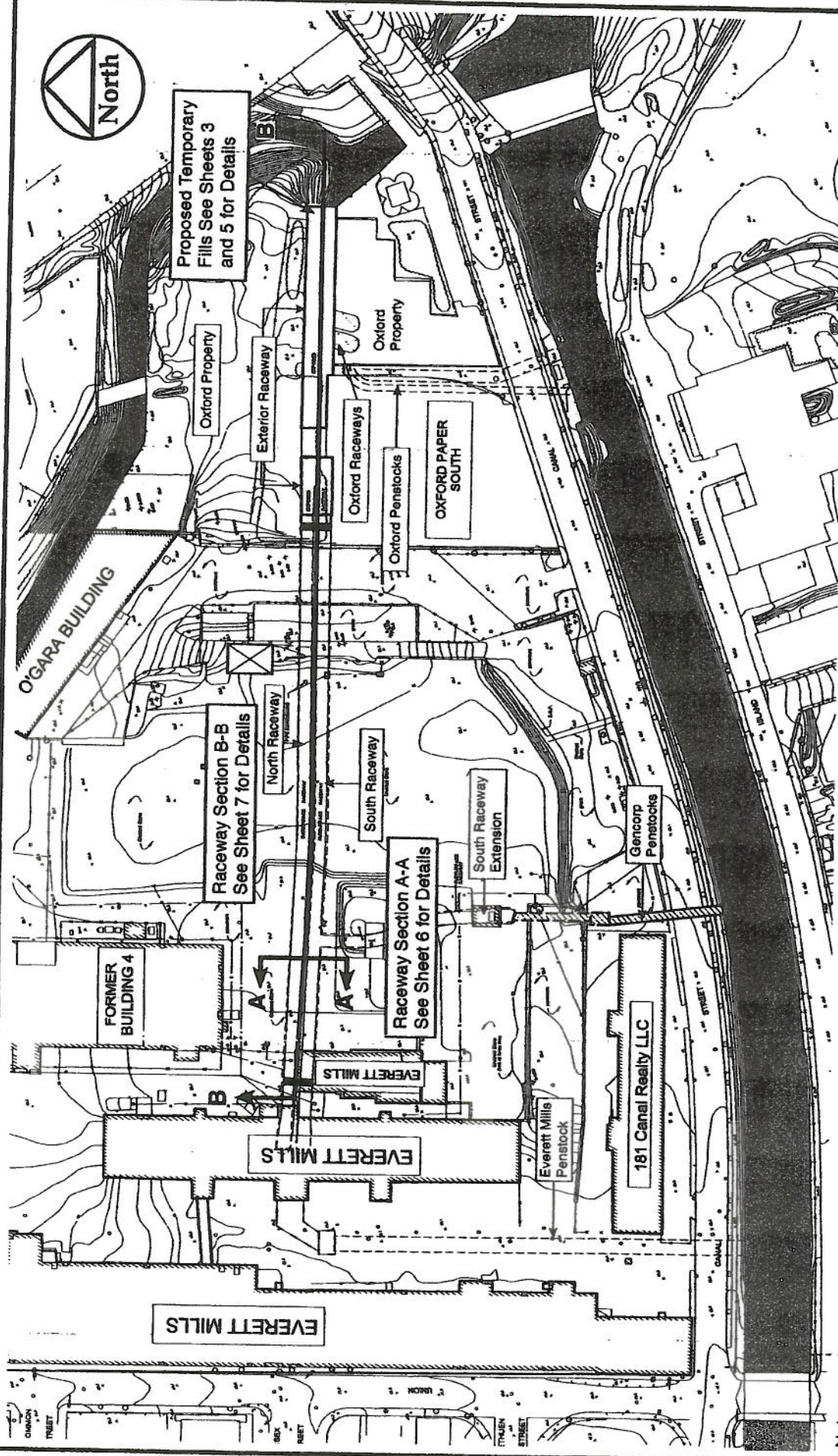
GenCorp, Inc.
Lawrence, Massachusetts
Project Location Map

ACOE PGP II Permit Application
Water Quality Certification Application

CDM

Sheet No.1 of 8

October 2008



Notes:

1. Oxford Penstocks and Raceways have been filled by Massachusetts Highway Dept. Project.
2. PCB sediments proposed to be excavated from South, South Extension, North & Exterior Raceways
3. No alteration of North Canal wall is proposed.
4. GenCorp penstocks are proposed to be filled.
5. Ordinary High Water EL 13 Ft. NGVD

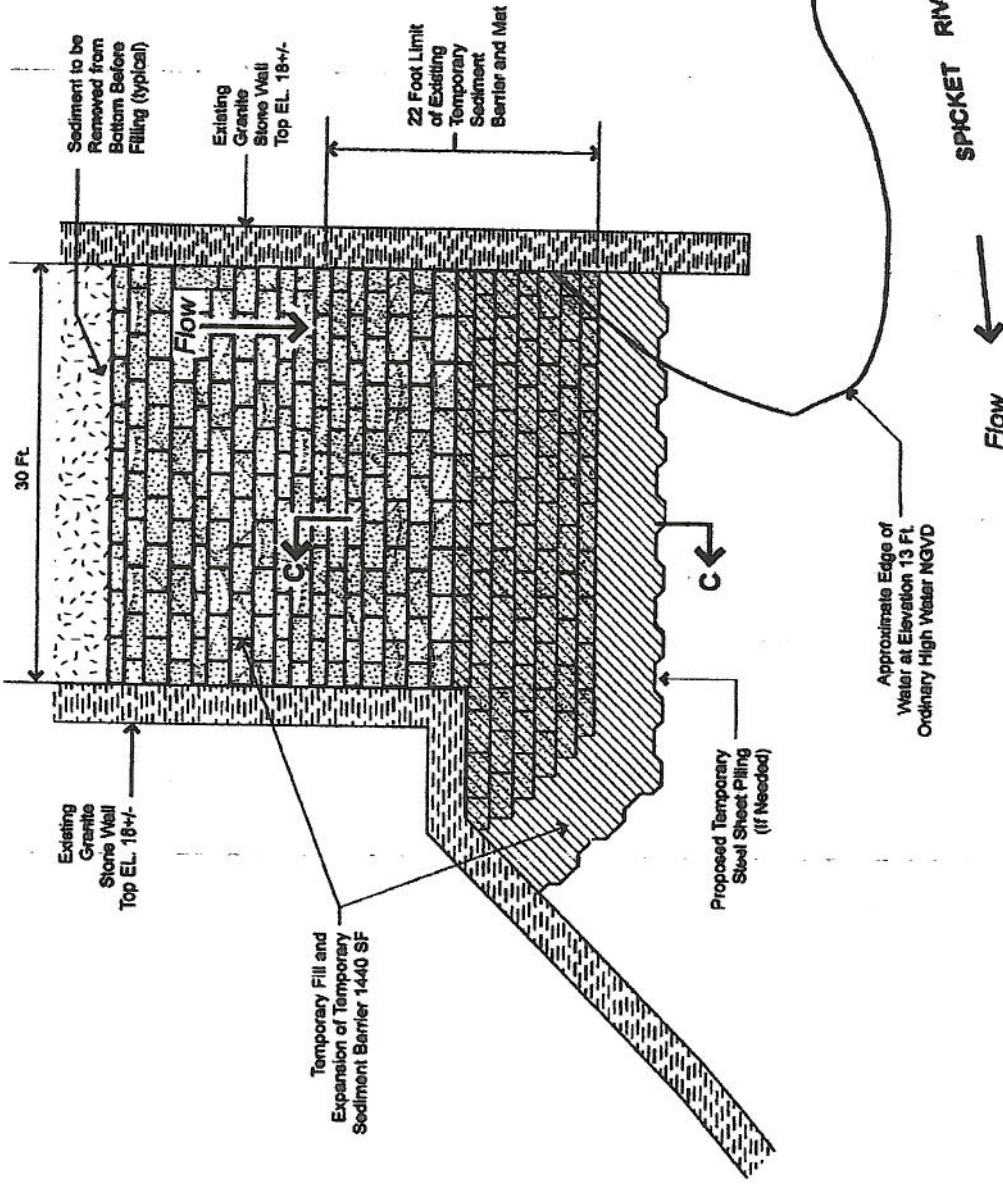


GenCorp, Inc.
Lawrence, Massachusetts

Site Impact Areas

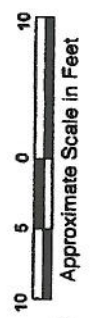
ACOE PGP II Permit Application
Water Quality Certification Application
Sheet No.2 of 8

October 2008



Refer to Sheet 4 of 8
for Permanent Filling
of Raceway

Refer to Sheet 5 of 8
for Section C-C



- Notes:
1. Elevations are NGVD
 2. Adjacent Property is City of Lawrence
 3. Granite Stone Walls and Sandbag Sediment Barrier are Existing

GenCorp, Inc.
Lawrence, Massachusetts

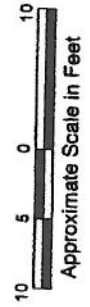
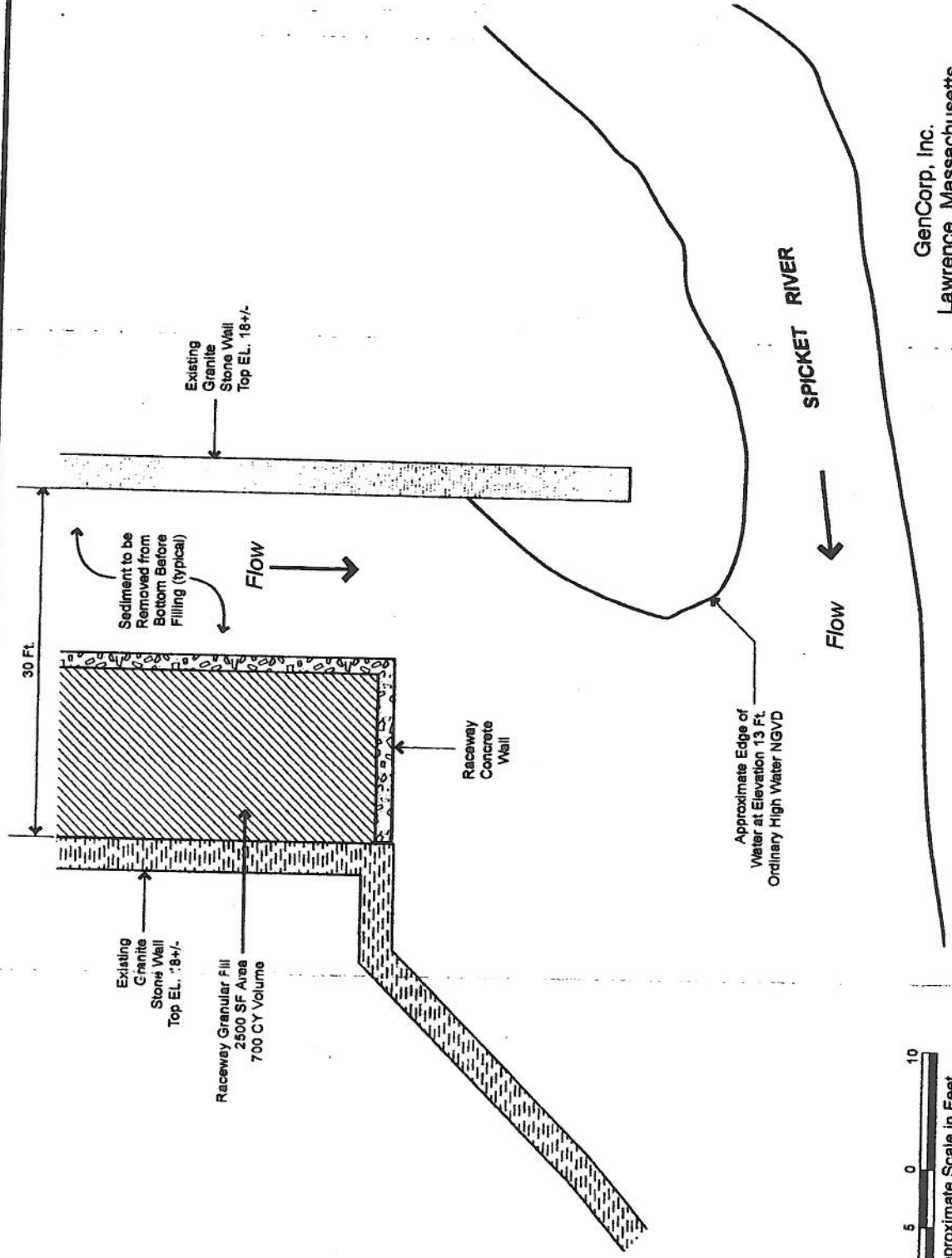
Raceway Sediment Removal, Temporary Sheeting and Filling Plan - Sequence 1

ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.3 of 8

October 2008

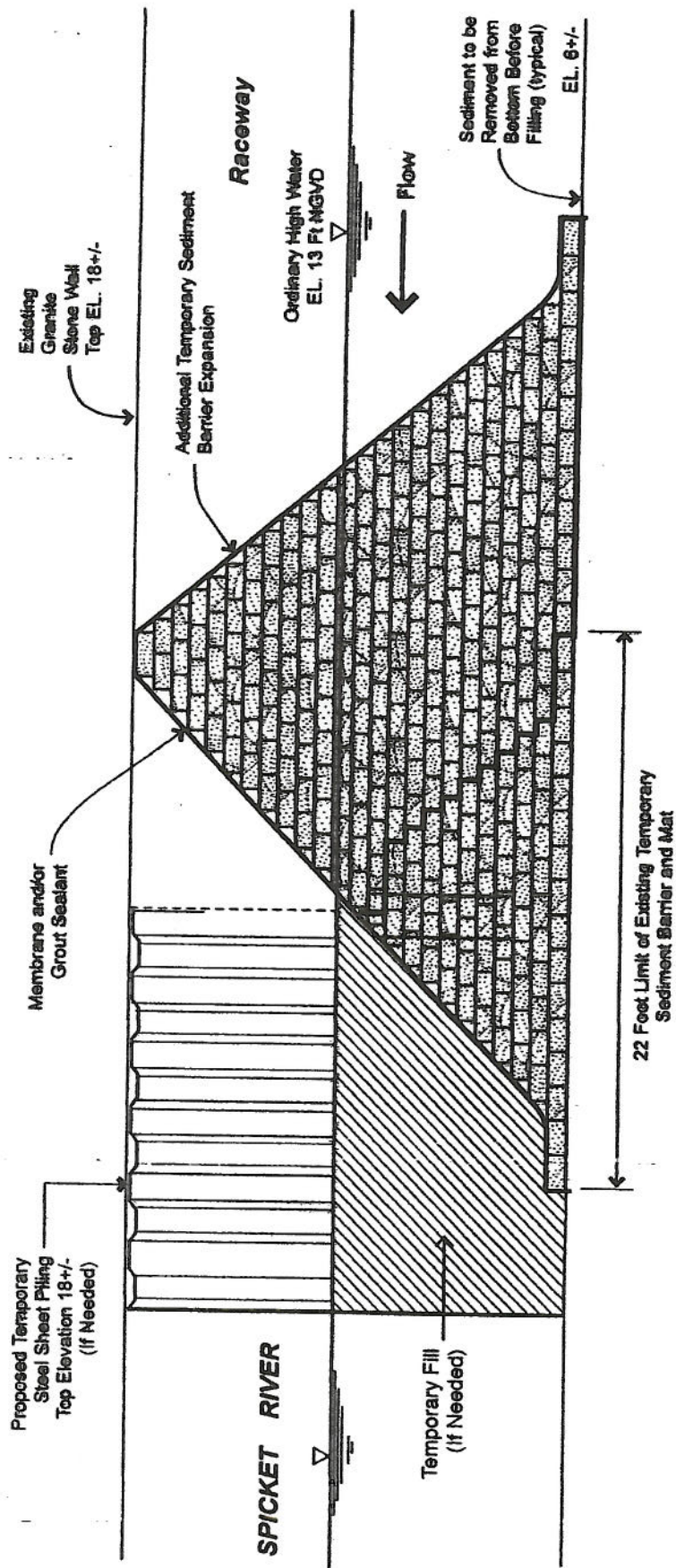




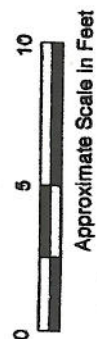
Notes:

1. Elevations are NGVD
2. Adjacent Property is City of Lawrence
3. Granite Stone Walls and Sandbag Sediment Barrier are Existing

GenCorp, Inc.
 Lawrence, Massachusetts
Raceway Sediment Removal
Permanent Filling Plan - Sequence 2
 ACOE PGP II Permit Application
 Water Quality Certification Application
 Sheet No. 4 of 8



Section C-C



Notes:

1. Elevations are NGVD
2. Adjacent Property is City of Lawrence
3. Granite Stone Walls and Sandbag Sediment Barrier are Existing Temporary Fill, Including Expansion of Temporary Barrier, will Cover 1440 Square Feet of Raceway Area
- 4.

GenCorp, Inc.
Lawrence, Massachusetts

Raceway Sediment Removal, Temporary Sheet piling and Filling Section

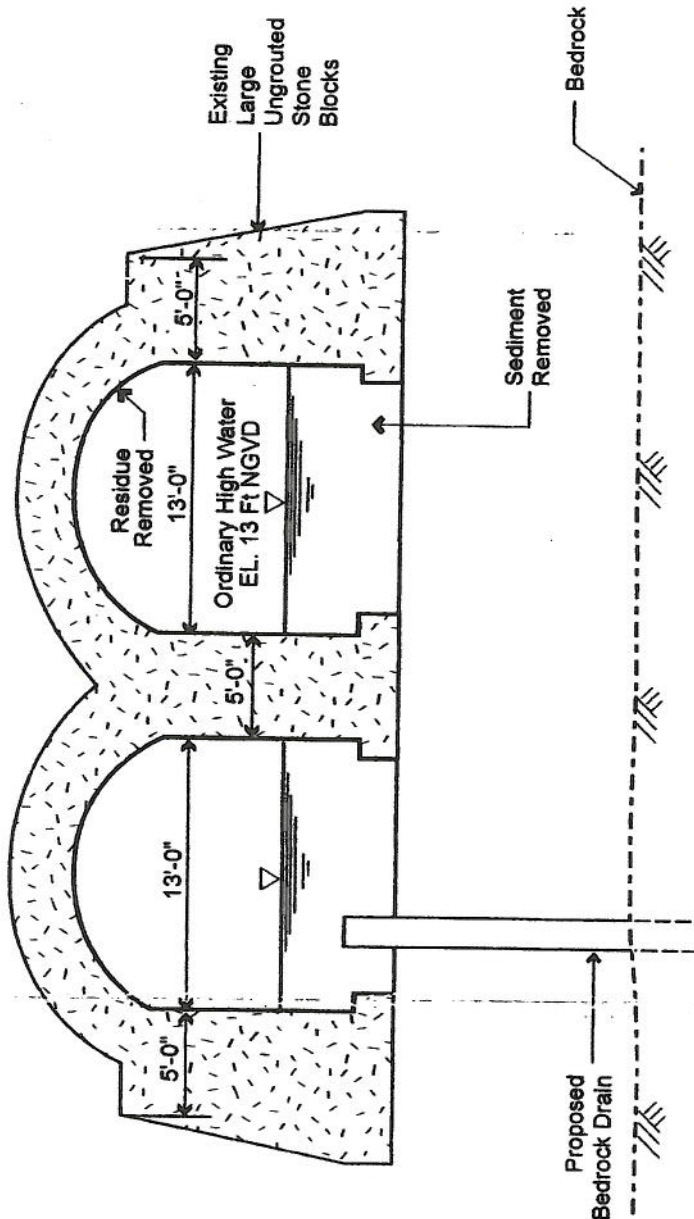
ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.5 of 8

October 2008

CDM

Existing Grade



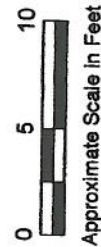
GenCorp, Inc.
Lawrence, Massachusetts

Plume Containment with Activated Carbon Treatment and 100 Year Flood Storage - Flood Stage Typical Section A-A

ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.6 of 8

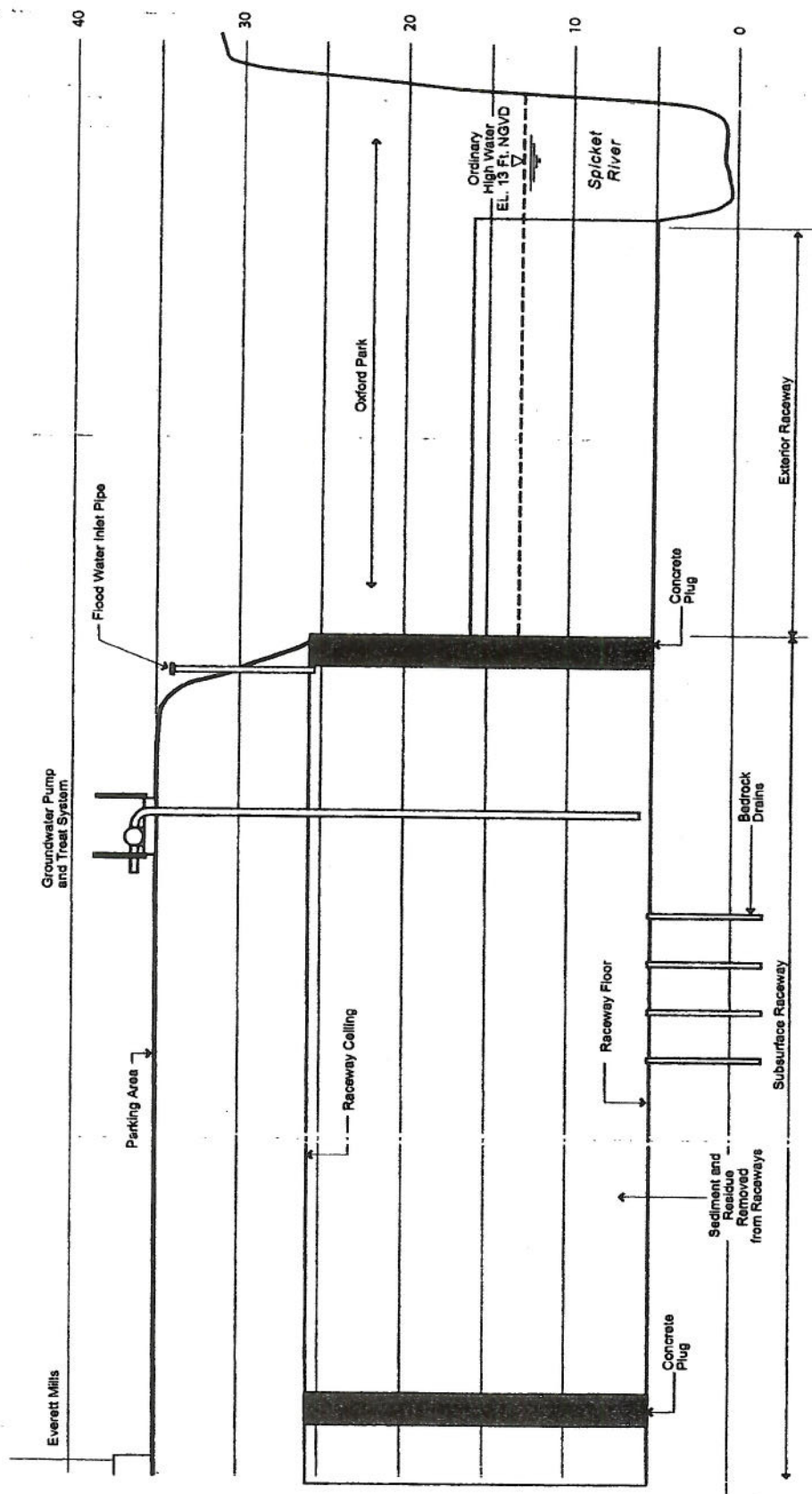
October 2008



Notes:

1. Elevations are NGVD
2. Adjacent Property is City of Lawrence
3. Granite Stone Walls and Sandbag Sediment Barrier are Existing

CDM



GenCorp, Inc.
Lawrence, Massachusetts

**Plume Containment with Activated Carbon
Treatment and 100 Year Flood Storage - Flood Stage
Typical Section B-B**

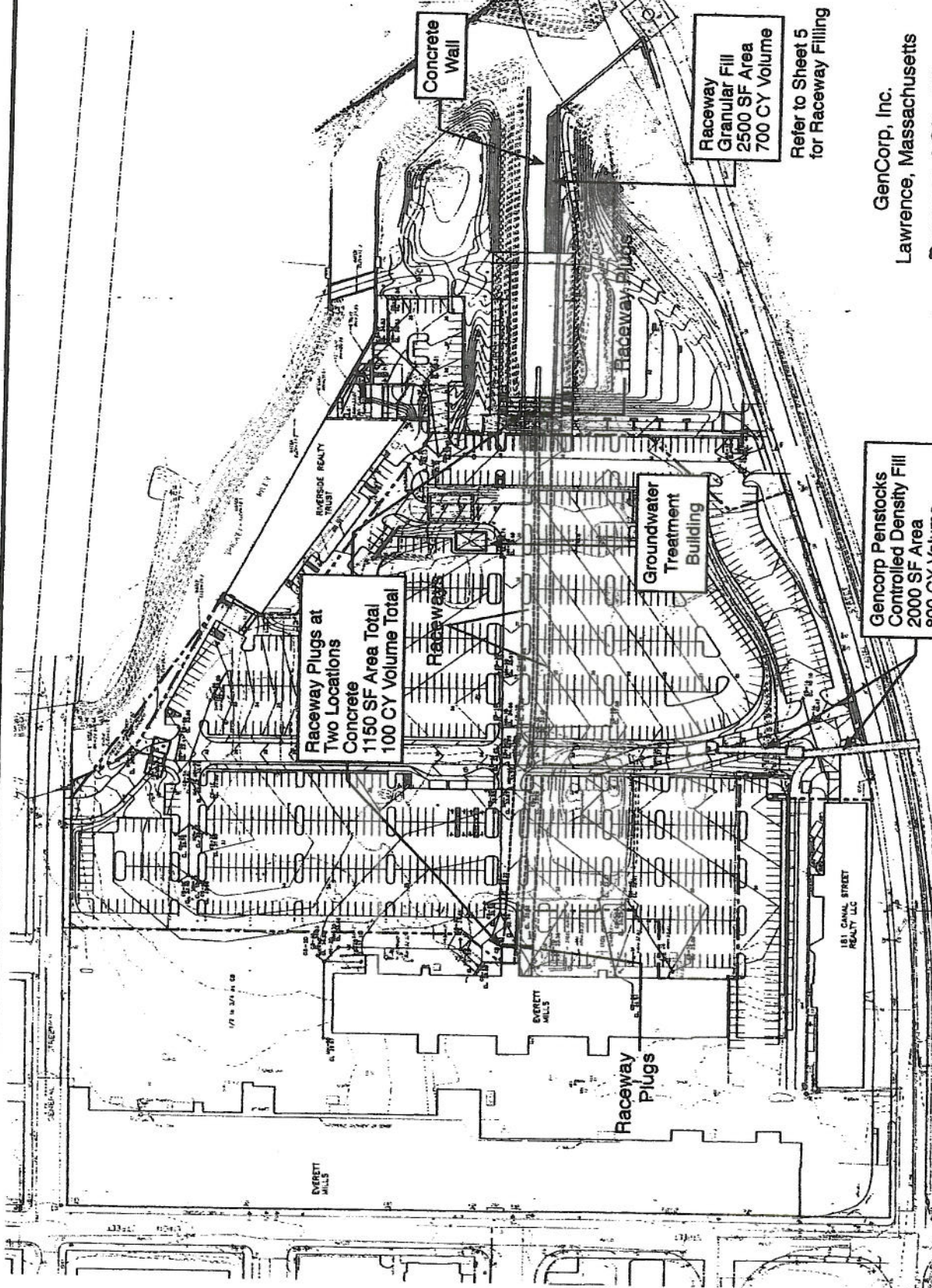
ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.7 of 8

October 2008



Note:
Exact detail/location of flood water inlet pipe will be determined during final design of Oxford Park.



Raceway Plugs at
Two Locations
Concrete
1150 SF Area Total
100 CY Volume Total

Concrete
Wall

Raceway
Granular Fill
2500 SF Area
700 CY Volume

Refer to Sheet 5
for Raceway Filling

Groundwater
Treatment
Building

Gencorp Penstocks
Controlled Density Fill
2000 SF Area
800 CY Volume



Note: Ordinary high water elevation: 13 Ft NGVD



GenCorp, Inc.
Lawrence, Massachusetts

Proposed Site Plan

ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.8 of 8

October 2008



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
205B Lowell Street, Wilmington, MA 01887 • (978) 694-3200

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

February 25, 2009

Merrimack Valley Regional Transit Authority,
in partnership with GenCorp Inc. and the City of Lawrence
c/o Camp Dresser & McKee, Inc.
50 Hampshire Street
Cambridge, MA 02139
Attn: Mr. Chester Gwardyak

RE: **Water Quality Certification**
BRP WW11
Minor Project
AT: 70 General Street, Lawrence, MA
DEP File #'s 195-0080
Transmittal Number: W150463

Dear Mr. Gwardyak:

MassDEP has reviewed your application for Water Quality Certification, as referenced above. In accordance with the provisions of MGL c.21, §§ 26-53 and Section 401 of the Federal Clean Water Act as amended (33 U.S.C. §1251 et seq.), it has been determined there is reasonable assurance the project or activity will be conducted in a manner which will not violate applicable water quality standards. It is MassDEP's opinion that a site visit was not needed because one was conducted as part of the prepermit review and was adequate for issuance of this 401 Water Quality Certification (WQC).

The purpose of the project is to remediate and redevelop a former industrial site. Specific project activities include installation of new drainage systems, abandonment and partial filling of a raceway system, filling and re-grading of selected areas, paving and landscaping for surface parking and a passive park. The raceway system was used for process water at a former mill. The majority of the raceway system runs underneath the site ("interior raceways") and formerly drew water from the North Canal, which in turn, drew water from the Merrimack River. This water was used in the mill and discharged to the interior raceways and finally to an exterior raceway that converges with the Spicket River. Contaminated sediment will be excavated from the raceways, including the removal of associated residues. A groundwater pump-and-treat system will be constructed using the filled raceways for groundwater collection. This project

falls under 401 jurisdiction because the raceways have been designated as Waters of the U.S. by the United States Army Corps of Engineers (USACOE).

The existing site contains 259,131 cubic feet of flood storage between elevation 30 and the 100 year flood elevation of 34.4, as designated by the Federal Emergency Management Agency ("FEMA"). Proposed regrading will result in 272,425 cubic feet of flood storage between elevations 30 and 34.4 for a net gain of 13,294 cubic feet of compensatory flood storage. An additional 50,997 cubic feet of compensatory flood storage not currently existing on the site will be provided between elevations 20 and 29.

The raceways are proposed to be filled as part of the contaminated sediment remediation. For the raceway filling, compensatory flood storage will be provided to the maximum extent practicable from the average water level up to elevation 34.4. The total storage loss from filling of the raceways is 42,296 cubic feet or 10.5% of their total flood storage capacity. This activity, with the associated loss of incremental flood storage, is allowable under the alternatives analysis presented in the application for 401 Certification. It is also allowable under the Wetlands Protect Act because the remediation activities, including the raceway filling, are classified as a limited project under 310 CMR 10.53(3)(q) for assessment, monitoring, containment, mitigation, and remediation of... a release or threat of release of oil and/or hazardous material in accordance with the provisions of 310 CMR 40.0000.

The Criteria for Evaluating Proposed Discharge to Wetlands of the March 1995, Regulations for the Water Quality Certification Program (the Regulations) requires the submittal of certain information that is necessary for MassDEP to determine that the project complies with the Wetland Protection Act, minimizes individual and cumulative impacts, and, complies with the Massachusetts Surface Water Quality Standards.

In accordance with the provisions of MGL c.21, §§ 26-53 and Section 401 of the Federal Clean Water Act as amended (33 U.S.C. §1251 et seq.), and the Regulations 314 CMR 9.00, and as a result of the proposed mitigation measures, as supplemented by the following Conditions, there is reasonable assurance the project will be conducted in a manner which will not violate applicable water quality standards at 314 CMR 4.00 as implemented by 314 CMR 9.00. Therefore, based on information currently in the record, MassDEP grants a Water Quality Certification for this project subject to the following conditions to maintain water quality, to minimize impact on waters and wetlands, and to ensure compliance with appropriate state law:

1. This project could result in a violation of MassDEP's Water Quality Standards, 314 CMR 4.00. Therefore, reasonable care and diligence shall be taken to assure that the proposed activity will not violate Class B standards.
2. All activity shall conform to the following plans and documents:
 - a. Application for Water Quality Certificate dated September 24, 2007, which includes: (i.) Transmittal Forms #W150463, and (ii.) Notice of Intent and accompanying narratives filed with the Lawrence Conservation Commission for DEP File #195-0080.

- b. CDM letter regarding, "Lawrence Gateway Project – Quadrant Area Redevelopment Compensatory Flood Storage (Revised)." Dated June 24, 2008, signed by Chester T. Gwardyak, P.E., LSP. Including Attachment: "Gencorp Re-Use vs Existing Volume Calculation 100 Year Floodplain – El. 34.4."
 - c. CDM letter regarding, "Lawrence Gateway Project – Quadrant Area Redevelopment Compensatory Flood Storage (Revision) CDM's Letter Dated June 24, 2008." Dated November 20, 2008, signed by Chester T. Gwardyak, P.E., LSP.
 - d. Plan entitled:

 "Quadrant Area Reuse Plan, Lawrence, MA, Proposed Grading & Drainage Plan," Fig. 1, Scale: 1" = 40'. Dated June, 2008. Plans Prepared by: CDM, designed by K. Jarvis, drawn by, J. Coan, J. Coroa.
3. All activity shall conform to the requirements set forth in the Order of Conditions issued by the Lawrence Conservation Commission on June 11, 1996, currently extended until June 11, 2010, for DEP File #195-0080, unless specified herein.
 4. All activity shall conform to the requirements set forth in the Department of the Army Massachusetts Programmatic General Permit (PGP) dated November 24, 2008.
 5. MassDEP shall be notified of all changes in plans affecting waters or wetlands. MassDEP will determine whether the changes require a revision to this certification.
 6. Prior to the commencement of any work on the site, the applicant or his designee (site contractor) shall submit a detailed sequence of construction, including a timetable, to MassDEP and the Lawrence Conservation Commission for approval. The sequence of construction shall include sedimentation and erosion control plan, water flow diversion and containment plan, and a demolition sequence that includes detailed steps and maintenance as well as handling and transport of removed materials. The construction sequencing plan shall be submitted sixty (60) days in advance of the proposed construction. The Lawrence Conservation Commission shall have twenty-one days after submission of the plan to submit comments to MassDEP.
 7. Prior to the commencement of any activity on this site, there shall be a pre-construction meeting between the project supervisor, the contractor responsible for the work, the Environmental Monitor, a member of the Lawrence Conservation Commission or its Administrator, and a representative of MassDEP to ensure that the requirements of the Water Quality Certification are understood. Arrangements shall be made two weeks prior to any activity to arrange for the pre-construction meeting.
 8. The project proponent shall notify MassDEP and the Lawrence Conservation Commission in writing, 48 hours before any activity commences on site.

9. Members and agents of MassDEP and the Lawrence Conservation Commission shall have the right to enter and inspect the premises to evaluate compliance with conditions stated in this Water Quality Certification. The project proponent shall submit any data MassDEP deems necessary for that evaluation.
10. Prior to construction, erosion controls shall be placed on site between areas of proposed work and resource areas. Haybales and/or silt fence must be staked. Silt fencing must be entrenched.
11. An adequate stockpile of erosion control materials shall be on site at all times for emergency or routine replacement and shall include materials to repair or replace silt fences, haybales, stone riprap filter berms, or any other devices planned for use during construction.
12. Erosion controls shall be deployed as shown on the reference plans and described in the Notice of Intent and application for 401 Certification. The site-specific Stormwater Pollution Prevention Plan (SWPPP) developed for construction of this project shall be supplied to the Department and Conservation Commission prior to construction activities. Noncompliance with the erosion control plan and /or SWPPP shall constitute non-compliance with the requirements of this Certification.
13. The applicant shall employ a qualified professional to oversee emergency placement of controls and regular inspection or replacement of sedimentation and turbidity control devices for this project. The name and contact information for this staff person shall be provided to the Lawrence Conservation Commission and MassDEP prior to the start of work. This staff person shall be responsible for inspection of erosion controls on a weekly basis during construction and after any storm event measuring more than ½-inch of precipitation in each 24-hour period and shall have the authority to modify existing controls or require additional controls if he or she deems it necessary. This staff person shall have the authority to require that any erosion problems are addressed immediately and shall immediately notify MassDEP and the Lawrence Conservation Commission if any discharges to streams or any other wetlands resource areas occur.
14. The Contractor shall prevent any debris from entering the Spicket River during all phases of construction.
15. Stormwater discharged to all water courses and vegetated wetlands shall be treated prior to discharge at least to a level to ensure that there is no exceedance of the effluent limitations, including thermal criteria, corresponding to the class of each receiving water, established pursuant to 314 CMR 4.00, the Massachusetts Surface Water Discharge Standards.
16. At no time during or after construction shall fill or other materials be placed, slump into or fall beyond the limit of grading as shown on the plan. The applicant shall be responsible for inspecting and maintaining all slopes and shall immediately notify

MassDEP and the Lawrence Conservation Commission if slumping, erosion, or encroachment occurs.

17. Materials and equipment shall be stored in a manner and location that will minimize the compaction of soils and the concentration of runoff in or near jurisdictional areas. Refueling of vehicles shall not occur in jurisdictional areas with the exception of pumps necessary for dewatering or by-pass pumping that will be placed within secondary containment with capacity to hold the volume of the fuel tank. In the case of stationary equipment, such as cranes, drill rigs, etc., all service vehicles must be equipped with a spill kit that is designed to hold the full volume of the vehicle's fuel tank. If a spill occurs, contaminated soils shall be removed according to the MassDEP guidance and applicable requirements of the MCP.
18. Construction-period dewatering discharge will occur on the upland side of the construction area and use a splash board and hay bale sediment barrier or equivalent as specified in the SWPPP or other approved erosion control plan. Dewatering discharges from the work area shall be effectively filtered or settled to remove silt prior to being discharged into any jurisdictional areas. Discharges from any dewatering or by-pass pumping shall not cause scouring of jurisdictional areas or erosion of adjacent upland areas.
19. The construction site shall be completely cleaned, cleared of construction equipment and debris and permanently stabilized after the completion of the work and prior to the Contractor leaving the site.
20. In the event of hazardous materials (including gasoline, fuel oils, lubricants, and hydraulic fluids), please call the appropriate agency, the Lawrence Fire Department (978-620-3400), MassDEP (888-304-1133), the Lawrence Board of Health (978-620-3260), and the Lawrence Conservation Commission (978-620-3500).
21. Upon stabilization of the site and approval by the Lawrence Conservation Commission and/or MassDEP, all erosion controls shall be removed.
22. No activity may begin prior to the expiration of the appeal period or until a final decision is issued by the MassDEP if an appeal is filed.

Failure to comply with this certification is grounds for enforcement, including civil and criminal penalties, under MGL c.21 §42, MGL c.21A §16, or other possible actions/penalties as authorized by the General Laws of the Commonwealth.

This Certification does not relieve the applicant of the obligation to comply with other appropriate state or federal statutes or regulations. This includes, but is not limited to, conditions of the individual permit from the U.S. Department of the Army.

Should you have any questions regarding this WQC, please contact Nancy White at the letterhead address or at (978) 694-3359.

Sincerely,

A handwritten signature in cursive script that reads "Rachel Freed".

Rachel Freed
Section Chief
Wetlands Program

cc: Lawrence Conservation Commission
USACOE-Regulatory Program

Notice of Appeal rights

A) Appeal Rights and Time Limits

Certain persons shall have a right to request an adjudicatory hearing concerning certifications by the MassDEP when an application is required: (a) the applicant or property owner; (b) any person aggrieved by the decision who has submitted written comments during the public comment period; any ten (10) persons of the Commonwealth pursuant to M.G.L. c. 30A where a group member has submitted written comments during the public comment period; or (c) any governmental body or private organization with a mandate to protect the environment which has submitted written comments during the public comment period. Any person aggrieved, any ten (10) persons of the Commonwealth, or a governmental body or private organization with a mandate to protect the environment may appeal without having submitted written comments during the public comment period only when the claim is based on new substantive issues arising from material changes to the scope or impact of the activity and not apparent at the time of public notice. To request an adjudicatory hearing pursuant to M.G.L. chapter 30A section 10, a Notice of Claim must be made in writing provided that the request is made by certified mail or hand delivery to the MassDEP, with the appropriate filing fee specified within 310 CMR 4.10 along with a MassDEP Fee Transmittal Form within twenty-one (21) days from the date of issuance of this Certificate, and addressed to:

Case Administrator
Dept of Environmental Protection
One Winter Street- 2nd Floor
Boston, MA 02108

A copy of the request shall at the same time be sent by certified mail or hand delivery to the issuing office of the Wetlands and Waterways Program at:

MassDEP, Northeast Regional Office
205B Lowell Street
Wilmington, MA 01887

B) Contents of Hearing Request

A Notice of Claim for Adjudicatory Hearing shall comply with the MassDEP's Rules for Adjudicatory Proceedings, 310 CMR 1.01 (6), and shall contain the following information pursuant to 314 CMR 9.10(3):

- a. the 401 Certification Transmittal Number and MassDEP Wetlands Protection Act File Number;
- b. the complete name of the applicant and address of the project;
- c. the complete name, address, and fax and telephone numbers of the party filing the request, and, if represented by counsel or other representative, the name, fax, and telephone number of the attorney;
- d. if claiming to be a party aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found at 314 CMR 9.02;
- e. a clear and concise statement that an adjudicatory hearing is being requested;

- f. a clear and concise statement of (1) the facts which are grounds for the proceedings, (2) the objections to the Certificate, including specifically the manner in which it is alleged to be inconsistent with the MassDEP's Water Quality Regulations, 314 CMR 9.00, and (3) the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written Certification, and
- g. a statement that a copy of the request has been sent by certified mail or hand delivery to the applicant, the owner (if different from the applicant), the conservation commission of the city or town where the activity will occur, the Department of Conservation and Recreation (when the certificate concerns projects in Areas of Critical Environmental Concern), the public or private water supplier where the project is located (when the certificate concerns projects in Outstanding Resource Waters), and any other entity with responsibility for the resource where the project is located.

C) Filing Fee and Address

The hearing request along with a MassDEP Fee Transmittal Form and a valid check or money order payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
Commonwealth Master Lockbox
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the applicant is exempt or granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. The MassDEP may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06 (2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.



MassWildlife

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

4/18/2008

Robert Kfoury
37 Meetinghouse Road
Methuen MA 01844-2370

RE: Project Location: off Water Street
Town: LAWRENCE
NHESP Tracking No.: 98-3906

To Whom It May Concern:

Thank you for contacting the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for information regarding state-listed rare species in the vicinity of the above referenced site.

Based on the information provided, the NHESP has determined that at this time the site is not mapped as Priority or Estimated Habitat and the NHESP database does not contain any state-listed species records in the immediate vicinity of this site.

This evaluation is based on the most recent information available in the NHESP database, which is constantly being expanded and updated through ongoing research and inventory. If you have any questions regarding this letter please contact Amy Coman, Endangered Species Review Assistant, at (508) 389-6364.

Sincerely,

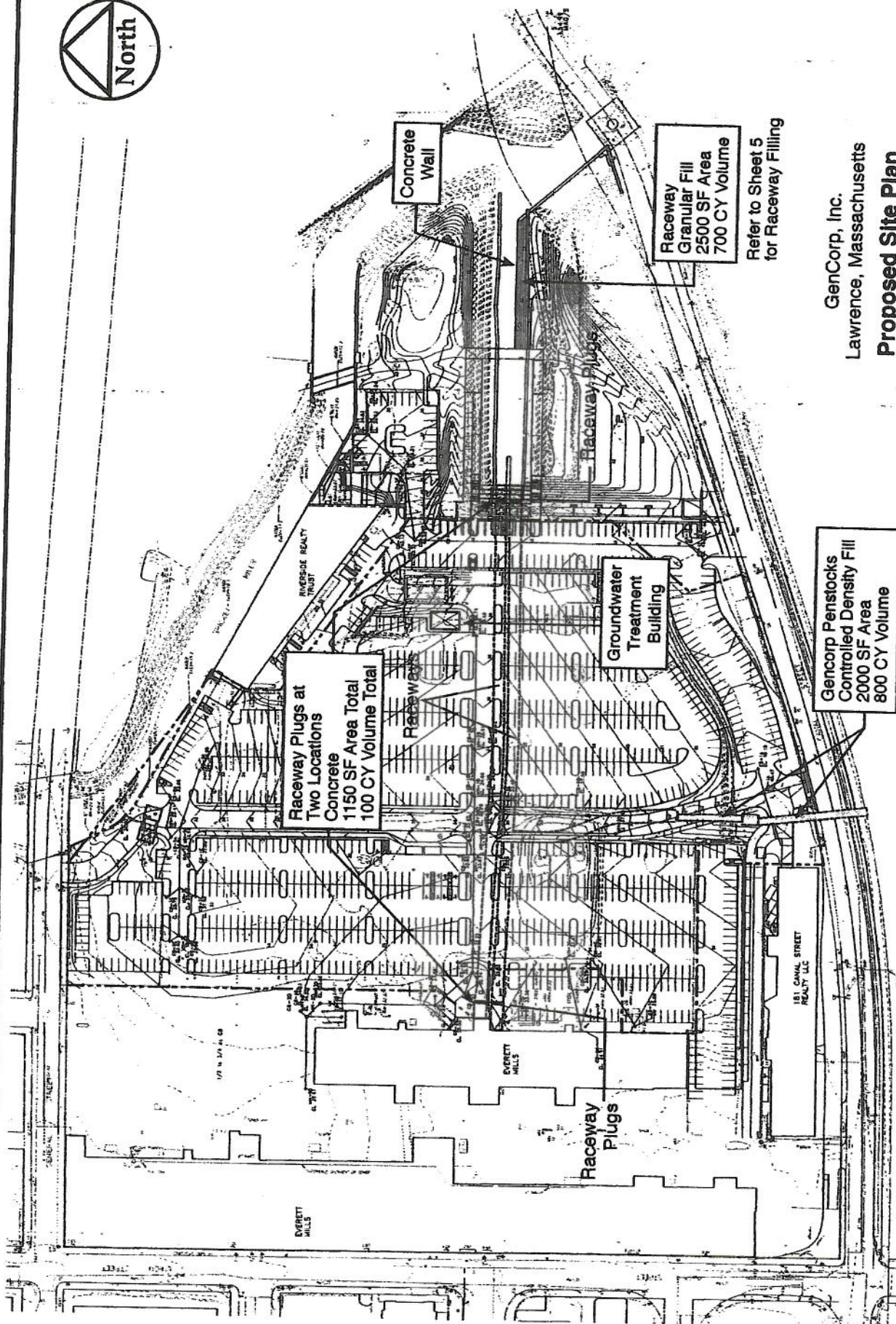
Thomas W. French, Ph.D.
Assistant Director

www.masswildlife.org

Division of Fisheries and Wildlife
Field Headquarters, North Drive, Westborough, MA 01581 (508) 389-6300 Fax (508) 389-7891
An Agency of the Department of Fish and Game

Attachment 2

Figures and Drawings



Note: Ordinary high water elevation: 13 Ft NGVD

CDM

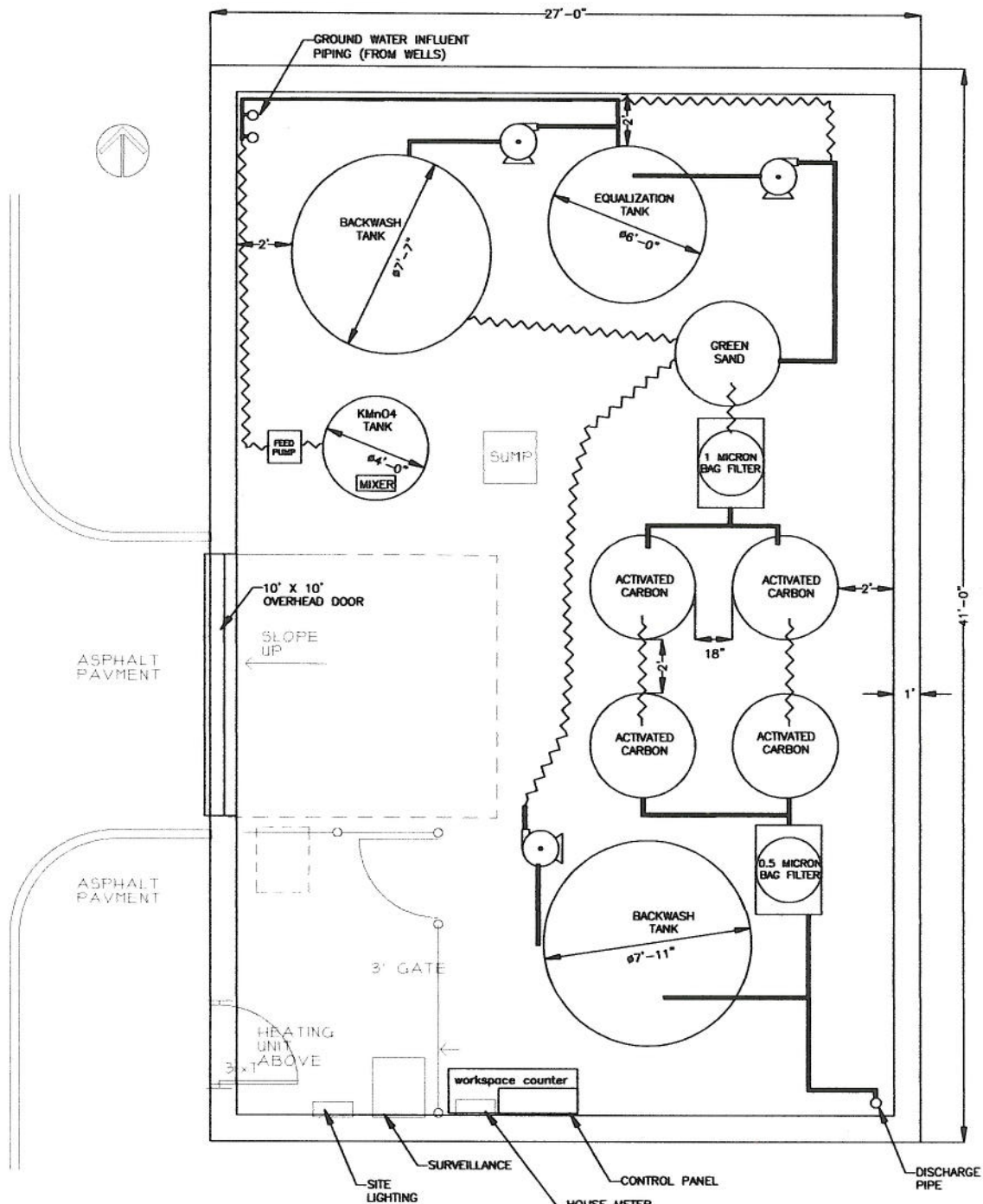
GenCorp, Inc.
Lawrence, Massachusetts

Proposed Site Plan

ACOE PGP II Permit Application
Water Quality Certification Application

Sheet No.8 of 8

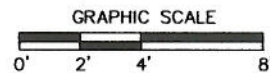
October 2008



LEGEND

NON-RIGID PIPE

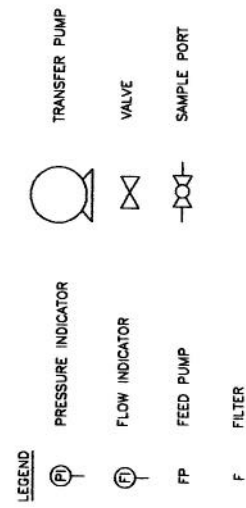
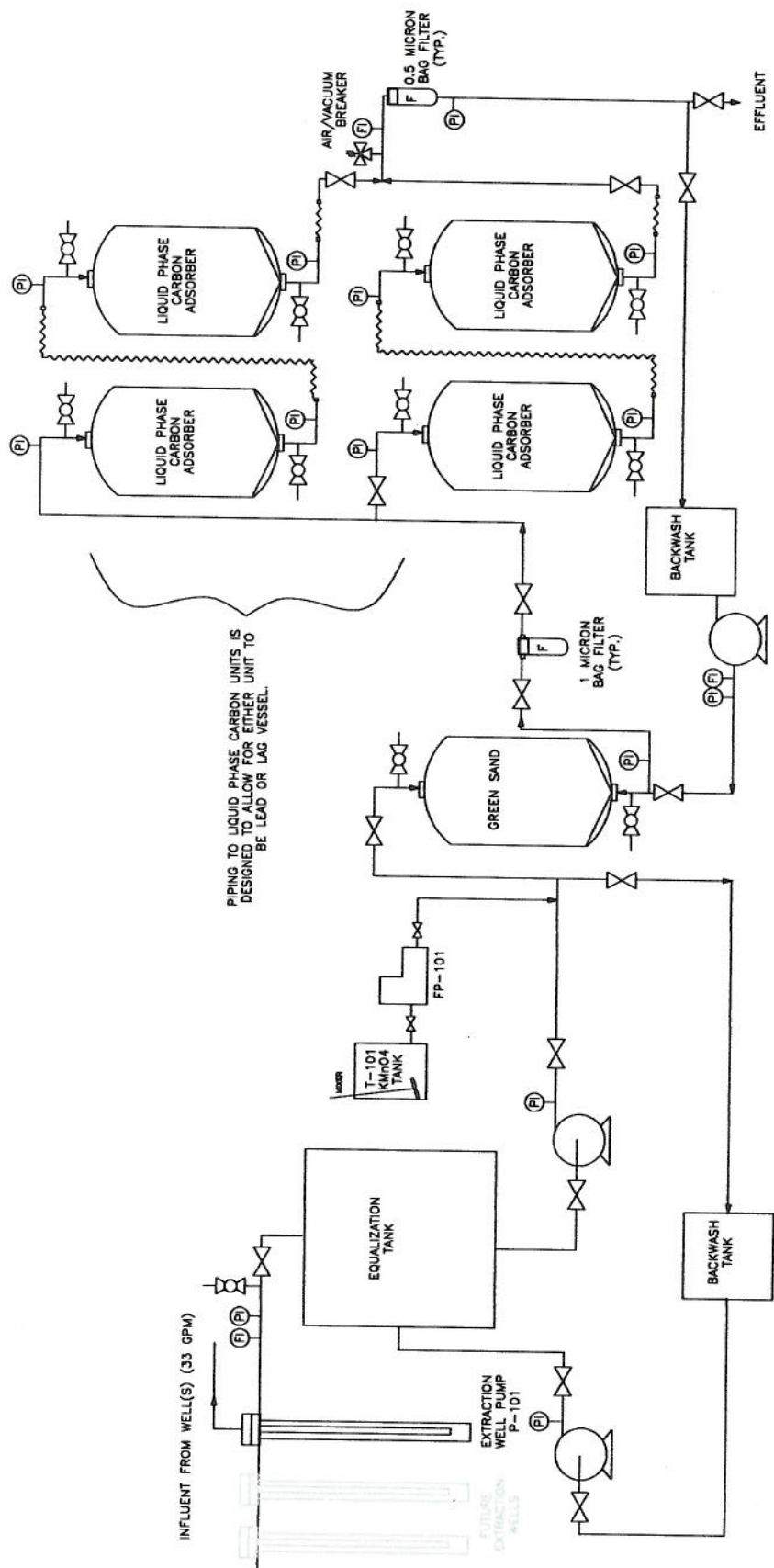
RIGID PIPE



NOTE:
SYSTEM COMPONENTS SHOWN AND THEIR RESPECTIVE DIMENSIONS ARE BASED ON ITEMS ALREADY OWNED AND TO BE PROVIDED FOR USE BY CLIENT. MORE DETAILED ANALYSIS MAY RESULT IN CHANGES TO THE COMPONENTS SHOWN AND/OR THEIR RESPECTIVE DIMENSIONS. A MORE DETAILED ANALYSIS MAY ALSO RESULT IN ADDITIONAL COMPONENTS BEING REQUIRED.

| REVISION NO. | REVISIONS | DATE | APPROVAL |
|--------------|-----------|----------|----------|
| 1 | DESIGN | 1/3/2010 | |
| 2 | DRAWN | 1/3/2010 | |
| 3 | CHECKED | 1/3/2010 | |

| | |
|--|---|
| CTRC 200 Day Hill Road Suite 200 Windsor, CT 06095 | GENCORP, INC. 70 GENERAL STREET LAWRENCE, MA |
| CONCEPTUAL LAYOUT PLAN | |
| SCALE: AS SHOWN | |
| 2 | |



| | | | |
|--|------|---------|-----------------|
| REVISION | | DATE | APPROVAL |
| REVISION | | DATE | APPROVAL |
| <p>QTRC <small>QUALITY TREATMENT & RECOVERY COMPANY</small> 1000 W. 10th St. Suite 200 Winnetka, IL 60093</p> | | | |
| <p>QENCORP, INC. 70 GENERAL STREET LAWRENCE, MA</p> | | | |
| <p>PROCESS FLOW DIAGRAM</p> | | | |
| DESIGN | U.P. | 12/1/00 | SCALE: AS SHOWN |
| DRAWN | MAN | 12/1/00 | |
| CHECKED | U.P. | 12/1/00 | |
| | | | 3 |

Attachment 3

Analytical Results



ANALYTICAL REPORT

Lab Number: L0911490

Client: de maximis, inc.
200 Day Hill Road; Suite 200
Windsor, CT 06095

ATTN: Todd Majer

Project Name: RACEWAY REMEDIATION

Project Number: 4177

Report Date: 08/21/09

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com





ANALYTICAL REPORT

Lab Number: L0904297

Client: Camp Dresser & McKee, Inc.
1 Cambridge Place
50 Hampshire Street
Cambridge, MA 02139

ATTN: Susan Gryszkiewicz

Project Name: GENCORP

Project Number: Not Specified

Report Date: 05/05/09

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

| Alpha Sample ID | Client ID | Sample Location | Collection Date/Time |
|----------------------------|------------------|----------------------------|---------------------------------|
| L0904297-01 | B-28S | LAWRENCE, MA | 04/08/09 08:50 |
| L0904297-02 | B-28D | LAWRENCE, MA | 04/08/09 10:30 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Report Submission

This report replaces the report issued on April 24, 2009. The report has been amended to include Pentachlorophenol by method 8270C-SIM. In addition, the reported detection limits have been lowered for Benzo(a)anthracene, Benzo(b)fluoranthene, Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene.

Sample Receipt

The samples were field filtered for Dissolved Metals only.

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

Case Narrative (continued)

PCB-608

L0904297-01 has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The surrogate recoveries for L0904297-01 are below the acceptance criteria for 2,4,5,6-Tetrachloro-m-xylene (0%) and Decachlorobiphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction is not required; therefore, the results of the original analysis are reported.

An LCS/LCSD was performed in lieu of an MS/Dup due to insufficient sample volume available for analysis.

Solids, Total Suspended

L0904297-02 has an elevated detection limit due to the dilution required by the elevated concentration present in the sample.

Phenolics, Total

L0904297-02 has an elevated detection limit due to the dilution required by the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Title: Technical Director/Representative

Date: 05/05/09

ORGANICS

VOLATILES

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-01
Client ID: B-28S
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/15/09 13:20
Analyst: JB

Date Collected: 04/08/09 08:50
Date Received: 04/08/09
Field Prep: Field Filtered

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|------------------------------------|--------|-----------|-------|-------|-----------------|
| Pesticides by GC - Westborough Lab | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.020 | 1 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-02
Client ID: B-28D
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/15/09 13:33
Analyst: JB

Date Collected: 04/08/09 10:30
Date Received: 04/08/09
Field Prep: Field Filtered

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|------------------------------------|--------|-----------|-------|-------|-----------------|
| Pesticides by GC - Westborough Lab | | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.019 | 1 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 14,504.1
Analytical Date: 04/15/09 11:52
Analyst: JB

| Parameter | Result | Qualifier | Units | RDL |
|---|--------|-----------|-------|-------|
| Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG358947-1 | | | | |
| 1,2-Dibromoethane | ND | | ug/l | 0.020 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 0.020 |

Lab Control Sample Analysis Batch Quality Control

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|--|------------------|-------------------|---------------------|-----|------------|
| Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG358947-2 | | | | | |
| 1,2-Dibromoethane | 82 | - | 70-130 | - | 20 |
| 1,2-Dibromo-3-chloropropane | 81 | - | 70-130 | - | 20 |

Matrix Spike Analysis Batch Quality Control

Project Name: GENCORP

Project Number: Not Specified

Lab Number: L0904297

Report Date: 05/05/09

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Found | MSD %Recovery | MSD Recovery Limits | RPD | RPD Limits |
|--|---------------|----------|----------|--------------|-----------|---------------|---------------------|-----|------------|
| Pesticides by GC - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG358947-3 QC Sample: L0904356-01 Client ID: MS Sample | | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.241 | 0.180 | 75 | - | - | 70-130 | - | 20 |
| 1,2-Dibromo-3-chloropropane | ND | 0.241 | 0.171 | 71 | - | - | 70-130 | - | 20 |

SEMIVOLATILES

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-01
Client ID: B-28S
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 1,8270C
Analytical Date: 04/13/09 15:42
Analyst: HL

Date Collected: 04/08/09 08:50
Date Received: 04/08/09
Field Prep: Field Filtered
Extraction Method: EPA 3510C
Extraction Date: 04/10/09 11:25

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|--|--------|-----------|-------|------|-----------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab | | | | | |
| Acenaphthene | ND | | ug/l | 0.19 | 1 |
| Fluoranthene | ND | | ug/l | 0.19 | 1 |
| Naphthalene | ND | | ug/l | 0.19 | 1 |
| Benzo(a)anthracene | ND | | ug/l | 0.05 | 1 |
| Benzo(a)pyrene | ND | | ug/l | 0.19 | 1 |
| Benzo(b)fluoranthene | ND | | ug/l | 0.10 | 1 |
| Benzo(k)fluoranthene | ND | | ug/l | 0.19 | 1 |
| Chrysene | ND | | ug/l | 0.19 | 1 |
| Acenaphthylene | ND | | ug/l | 0.19 | 1 |
| Anthracene | ND | | ug/l | 0.19 | 1 |
| Benzo(ghi)perylene | ND | | ug/l | 0.19 | 1 |
| Fluorene | ND | | ug/l | 0.19 | 1 |
| Phenanthrene | ND | | ug/l | 0.19 | 1 |
| Dibenzo(a,h)anthracene | ND | | ug/l | 0.10 | 1 |
| Indeno(1,2,3-cd)Pyrene | ND | | ug/l | 0.15 | 1 |
| Pyrene | ND | | ug/l | 0.19 | 1 |
| Pentachlorophenol | ND | | ug/l | 0.76 | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 27 | | 21-120 |
| Phenol-d6 | 21 | | 10-120 |
| Nitrobenzene-d5 | 47 | | 23-120 |
| 2-Fluorobiphenyl | 43 | | 43-120 |
| 2,4,6-Tribromophenol | 64 | | 10-120 |
| 4-Terphenyl-d14 | 56 | | 33-120 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-01
Client ID: B-28S
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 1,8270C
Analytical Date: 04/14/09 13:34
Analyst: ND

Date Collected: 04/08/09 08:50
Date Received: 04/08/09
Field Prep: Field Filtered
Extraction Method: EPA 3510C
Extraction Date: 04/10/09 11:25

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|--|--------|-----------|-------|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab | | | | | |
| Bis(2-Ethylhexyl)phthalate | ND | | ug/l | 4.8 | 1 |
| Butyl benzyl phthalate | ND | | ug/l | 4.8 | 1 |
| Di-n-butylphthalate | ND | | ug/l | 4.8 | 1 |
| Di-n-octylphthalate | ND | | ug/l | 4.8 | 1 |
| Diethyl phthalate | ND | | ug/l | 4.8 | 1 |
| Dimethyl phthalate | ND | | ug/l | 4.8 | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|------------------|------------|-----------|---------------------|
| Nitrobenzene-d5 | 48 | | 23-120 |
| 2-Fluorobiphenyl | 47 | | 43-120 |
| 4-Terphenyl-d14 | 67 | | 33-120 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-02
Client ID: B-28D
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 1,8270C
Analytical Date: 04/11/09 15:12
Analyst: ND

Date Collected: 04/08/09 10:30
Date Received: 04/08/09
Field Prep: Field Filtered
Extraction Method: EPA 3510C
Extraction Date: 04/10/09 11:25

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|--|--------|-----------|-------|-----|-----------------|
| Semivolatile Organics by GC/MS - Westborough Lab | | | | | |
| Bis(2-Ethylhexyl)phthalate | ND | | ug/l | 5.0 | 1 |
| Butyl benzyl phthalate | ND | | ug/l | 5.0 | 1 |
| Di-n-butylphthalate | ND | | ug/l | 5.0 | 1 |
| Di-n-octylphthalate | ND | | ug/l | 5.0 | 1 |
| Diethyl phthalate | ND | | ug/l | 5.0 | 1 |
| Dimethyl phthalate | ND | | ug/l | 5.0 | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|------------------|------------|-----------|---------------------|
| Nitrobenzene-d5 | 48 | | 23-120 |
| 2-Fluorobiphenyl | 47 | | 43-120 |
| 4-Terphenyl-d14 | 74 | | 33-120 |

Project Name: GENCORP
Project Number: Not Specified

Lab Number: L0904297
Report Date: 05/05/09

SAMPLE RESULTS

Lab ID: L0904297-02
Client ID: B-28D
Sample Location: LAWRENCE, MA
Matrix: Water
Analytical Method: 1,8270C
Analytical Date: 04/13/09 16:11
Analyst: HL

Date Collected: 04/08/09 10:30
Date Received: 04/08/09
Field Prep: Field Filtered
Extraction Method: EPA 3510C
Extraction Date: 04/10/09 11:25

| Parameter | Result | Qualifier | Units | RDL | Dilution Factor |
|--|--------|-----------|-------|------|-----------------|
| Semivolatile Organics by GC/MS-SIM - Westborough Lab | | | | | |
| Acenaphthene | ND | | ug/l | 0.20 | 1 |
| Fluoranthene | ND | | ug/l | 0.20 | 1 |
| Naphthalene | ND | | ug/l | 0.20 | 1 |
| Benzo(a)anthracene | ND | | ug/l | 0.05 | 1 |
| Benzo(a)pyrene | ND | | ug/l | 0.20 | 1 |
| Benzo(b)fluoranthene | ND | | ug/l | 0.10 | 1 |
| Benzo(k)fluoranthene | ND | | ug/l | 0.20 | 1 |
| Chrysene | ND | | ug/l | 0.20 | 1 |
| Acenaphthylene | ND | | ug/l | 0.20 | 1 |
| Anthracene | ND | | ug/l | 0.20 | 1 |
| Benzo(ghi)perylene | ND | | ug/l | 0.20 | 1 |
| Fluorene | ND | | ug/l | 0.20 | 1 |
| Phenanthrene | ND | | ug/l | 0.20 | 1 |
| Dibenzo(a,h)anthracene | ND | | ug/l | 0.10 | 1 |
| Indeno(1,2,3-cd)Pyrene | ND | | ug/l | 0.15 | 1 |
| Pyrene | ND | | ug/l | 0.20 | 1 |
| Pentachlorophenol | ND | | ug/l | 0.80 | 1 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|----------------------|------------|-----------|---------------------|
| 2-Fluorophenol | 29 | | 21-120 |
| Phenol-d6 | 22 | | 10-120 |
| Nitrobenzene-d5 | 47 | | 23-120 |
| 2-Fluorobiphenyl | 44 | | 43-120 |
| 2,4,6-Tribromophenol | 69 | | 10-120 |
| 4-Terphenyl-d14 | 71 | | 33-120 |